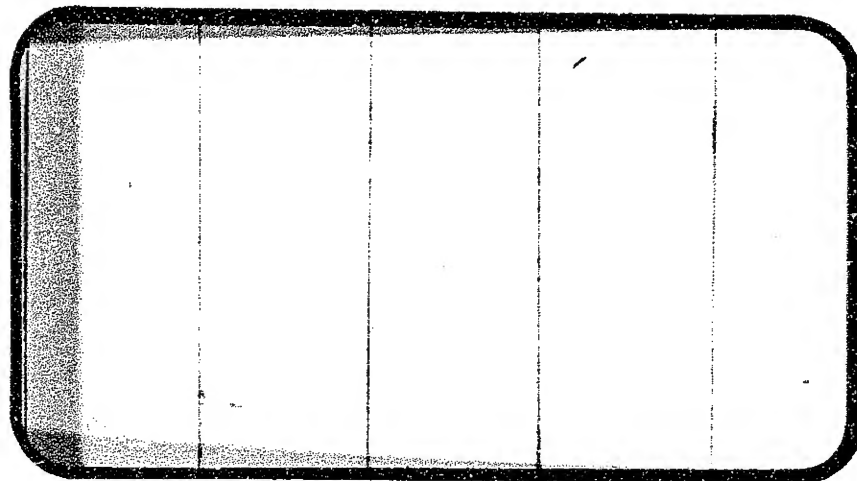




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CHARACTERISTICS OF THE SPACE SHUTTLE
EXTERNAL TANK (MSFC MODEL 458) DURING
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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA Management services

SPACE DIVISION



CHRYSLER
CORPORATION

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STATIC STABILITY CHARACTERISTICS OF THE
SPACE SHUTTLE EXTERNAL TANK (MSFC MODEL 458)
DURING REENTRY IN THE MSFC 14-INCH TWT
(TAIF)

By

Paul E. Ramsey, MSFC
Michael K. Robertson, NSI
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Prepared Under NASA Contract Number NAS9-13247

by

Data Management Services
Chrysler Corporation Space Division
New Orleans, La., 70189

for

Engineering Analysis Division
Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number: MSFC TWT 583
NASA Series No.: TAlF
Model Number: 458
Test Dates: February 19 - March 5, 1974
Occupancy Hours: 96

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STATIC STABILITY CHARACTERISTICS OF THE
SPACE SHUTTLE EXTERNAL TANK (MSFC MODEL 458)
DURING REENTRY IN THE MSFC 14-INCH TWT
(TA1P)

By

Paul E. Ramsey*, Michael K. Robertson** and Gary W. Winkler**

ABSTRACT

This report documents data obtained in a wind tunnel test of a 0.003-scale modified MCR 0200 Space Shuttle External Tank (ET) model, MSFC Model 458, tested at reentry conditions in the MSFC 14-inch Prisonic Wind Tunnel (TWT). This test is a continuation of a series of tests conducted to evaluate the aerodynamic characteristics of the ET during reentry. The test started on February 19, 1974, and was completed on March 5, 1974. Three Mach numbers were investigated: 1.96, 3.48, and 4.96. The angle-of-attack range was -10° to 190° . Eight roll positions of the model from 0° to 315° were tested. The run schedule consisted of 162 runs. No. 120 grit was applied randomly over the model throughout the test.

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Schedule of Coefficients Plotted:

- A) CNM, CLMM, CA, XCP/L, CYM, CYNM, CBL vs. ALPHA
- B) CNM, CLMM, CA, XCP/L vs. ALPHA

NOMENCLATURE

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>	<u>UNITS</u>
A_b		base area; cross-sectional area of the cylindrical section of the model	in^2
A_c		cavity area, area of the opening required for the balance and sting	in^2
BMC	BMC	Balance Moment Center	
b_{ref}	BREF	reference span (diameter of the cylindrical section of the model)	in.
l_{body}		length of the body	in.
l_{ref}	LREF	reference length (diameter of the cylindrical section of the model)	in.
M	MACH	Mach number	
MRP	MRP	Moment Reference Point (located by XMRP, YMRP, and ZMRP)	
P_{bi}		base pressures	psi
P_t		free stream total pressure	psi
P_∞		free stream static pressure	psi
q_∞		free stream dynamic pressure	psi
R_N		Reynolds number based on l_{ref}	
R_N/ft	RN/L	Reynolds number per unit length	per ft.
S_{ref}	SREF	reference area (cross sectional area of the cylindrical section of the model)	in^2
T_t		tunnel total temperature	$^\circ\text{F}$
C_{pe}	CPC	pressure coefficient of balance cavity	

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>	<u>UNITS</u>
X, Y, Z		body axes system coordinates (for an airplane, the X, Z-plane is the plane of symmetry, the origin of the axes system is the center of gravity or any other convenient point, and the X axis is the airplane longitudinal axis)	in.
$X_{c.g.}$		distance of center of gravity from nose of body	in.
X_m, Y_m, Z_m		missile axes (see text)	in.
XMRP, YMRP, ZMRP	XMRP, YMRP, ZMRP	Abbreviations for the location of the Moment Reference Point in the missile axis system	in.
α_T	ALPHA	angle-of-attack, angle between the X_m -axis and a vector in the direction of the relative wind	degrees
ϕ	PHI	roll angle, i.e., angle between the missile Y_m -axis and the body Y-axis (from a pilot's viewpoint in an airplane, a positive roll angle is a clockwise rotation).	degrees
C_A	CA	total axial force coefficient in the body axis system	
C_{A_b}	CAB	base axial force coefficient (same in both missile and body axis systems)	
$C_{A_{fm}}$	CAF	forebody axial force coefficient, $C_A - C_{A_b}$	
C_{A_m}	CA	total axial force coefficient in the missile axis system, $F_{A_m}/q_\infty S_{ref}$	
C_l	CBL	rolling moment coefficient in the body axis system	
C_{l_m}	CBL	rolling moment coefficient in the missile axis system, $M_{X_m}/q_\infty S_{ref} l_{ref}$	

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>	<u>UNITS</u>
C_m	CLM	pitching moment coefficient in the body axis system	
C_{m_m}	CLMM	pitching moment coefficient in the missile axis system, $M_{Y_m}/q_\infty S_{ref} l_{ref}$	
C_N	CN	normal force coefficient in the body axis system	
C_{N_m}	CNM	normal force coefficient in the missile axis system, $F_{N_m}/q_\infty S_{ref}$	
C_n	CYN	yawing moment coefficient in the body axis system	
C_{n_m}	CYNM	yawing moment coefficient in the missile axis system, $M_{Z_m}/q_\infty S_{ref} l_{ref}$	
$C_{P_{bl}}$		base pressure coefficient: $\frac{P_{bl} - P_\infty}{q_\infty}$	
C_Y	CY	side force coefficient in the body axis system	
C_{Y_m}	CYM	side force coefficient in the missile axis system, $F_{Y_m}/q_\infty S_{ref}$	
X_{cp}/l	XCP/L	center of pressure location in fraction of body length from nose; $\frac{X_{c.g.}}{l_{body}} - \frac{C_{m_m}}{C_{N_m}} \left/ \frac{l_{ref}}{l_{body}} \right.$	
F_{Y_m}	SF	side force in the missile axis system, positive in the positive direction of Y_m	lb
F_{A_m}	AF	total axial force in the missile axis system, positive in the negative direction of X_m	lb
F_{N_m}	NF	normal force in the missile axis system, positive in the negative direction of Z_m	lb

<u>SYMBOL</u>	<u>PLOT SYMBOL</u>	<u>DEFINITION</u>	<u>UNITS</u>
M_{X_m}	RM	rolling moment in the missile axis system, i.e., moment about the X_m -axis (a positive rolling moment tends to rotate the positive Y_m -axis toward the positive Z_m -axis)	in.-lb
M_{Y_m}	PM	pitching moment in the missile axis system, i.e., moment about the Y_m -axis (a positive pitching moment tends to rotate the positive Z_m -axis toward the positive X_m -axis)	in.-lb
M_{Z_m}	YM	yawing moment in the missile axis system, i.e., moment about the Z_m -axis (a positive yawing moment tends to rotate the positive X_m -axis toward the positive Y_m -axis)	in.-lb

SUBSCRIPTS

b	base
c	cavity
c.g.	center of gravity
i	identifies the location of the base pressure measurements
m	missile axis system
ref	reference conditions
t	total conditions
∞	free stream conditions

INTRODUCTION

The wind tunnel test described herein is a continuation of a series of tests conducted to evaluate the aerodynamic characteristics of the Space Shuttle External Tank (ET) during reentry.

The basic configuration of the model is a 0.003-scale representation of the ET with fuel lines, forward and aft SRB and Orbiter attach hardware, and including the ET/Orbiter rectangular crossbar attach structure. The model was designated MSFC no. 458.

Three Mach numbers were investigated: 1.96, 3.48, and 4.96. The angle-of-attack range was -10° to 190° . The model was tested at eight roll positions from 0 to 315 degrees. The run schedule consisted of 162 runs.

MSFC balance #237 was used to obtain six-component force and moment data.

MODEL DESCRIPTION AND TEST HARDWARE

The model tested was MSFC number 458, a 0.003-scale representation of the 324-inch diameter MCR 0200 Space Shuttle External Tank. With one exception, all of the model parts were made according to the configuration specified by Rockwell drawing VL78-000041 "B". The exception was a rectangular crossbar which was added to the aft orbiter/ET attach structure according to Martin Marietta memo SA-A-74-9. The general arrangement of the model is shown in the 3-view drawing, Figure 2.

The model had a frontal area at 0° angle-of-attack of approximately 0.742 square inch, roughly 1% tunnel blockage at $M = 5.0$. However, at

$\alpha = 90^\circ$, the frontal area was approximately 5.1 square inches, or 6.8% blockage. The offset sting used at the α 's close to 90° brought the blockage up to about 9% for the worst case. The model was designed so that the balance center was always located close to the centerline of the tunnel

Model 458 actually consisted of two tank models, one with protuberances (fuel lines, orbiter attach structures, etc.) and one without. The model with protuberances was tested at angles-of-attack from -10° to 190° by using both straight and offset stings. For testing at α 's from -10° to 90° , the model was tail mounted. The straight sting, Figure 3, was used for α 's from -10° to 30° ; and for α 's from 50° to 100° , the offset sting, Figure 4, was used. For the α range from 80° to 190° , the model was reversed and nose mounted. The offset sting, Figure 4, was used for α 's from 80° to 130° ; and the straight sting, Figure 3, was used for α 's from 130° to 190° . The model was tested at eight different roll positions. The "clean" model (without protuberances) was tested from 50° to 100° only, Figure 7.

MSFC balance #237 was mounted inside the external tank, on the ET centerline. Installation photographs presented in Figures 3 through 7 show the five arrangements of tank and supporting hardware. The dimensions of each of the model parts are presented in Table I, Model Component Dimensions.

Model stations are sometimes used to describe the x, y, and z axes location of various components of the model. When used, these stations will be given in inches model scale, and the zero reference points will

be same as shown in Rockwell drawing VL72-000088"D".

In an attempt to minimize Reynolds number effects, #120 grit was applied randomly over the model throughout the test.

CONFIGURATIONS INVESTIGATED

The two tank configurations investigated are identified below.

- T₁ MCR 0200 configuration modified to include a rectangular crossbar as part of the aft ET/Orbiter attach structure. It consisted of the following Rockwell-numbered model components: T₁₂ AT₅ AT₆ AT₇ AT₈ AT₉ PT₁ PT₂ PT₃ FL₁ FL₂ and FR₆.
- T₂ "Clean" MCR 0200 ET configuration, equivalent to Rockwell component T₁₂

Brief descriptions of each component are presented below. Refer to the Model Component Dimensions, Table I, for dimensional data.

- T₁₂ Baseline 324-inch diameter external oxygen hydrogen tank without protuberances
- AT₅ Forward orbiter/ET attach structure
- AT₆ Left rear orbiter/ET attach structure
- AT₇ Right rear orbiter/ET attach structure
- AT₈ Forward SRB/ET attach structure
- AT₉ Aft SRB/ET attach structure
- PT₁ LOX vent line fairing
- PT₂ LOX feed line
- PT₃ LH₂ feed line

FL1	LOX feed line
FL2	LH2 feed line
FR6	Rectangular crossbar at aft orbiter/ET attach structure

TEST PROGRAM

The Mach numbers for which data were obtained are 1.96, 3.48, and 4.96. Table II presents the nominal test conditions for each Mach number. The full range of obtainable angles-of-attack is -10° to 190° . Angle-of-attack nomenclature is presented in Table III. Models at roll angles of 0° , 45° , 90° , 135° , 180° , 225° , 270° , and 315° were investigated. The run schedule is presented in Table IV.

DATA REDUCTION AND PRESENTATION

Six-component force and moment data were measured using MSFC strain-gage balance #237 mounted inside the external tank. These data were resolved in the missile axis system and are presented as non-dimensionalized coefficients. An axis system diagram showing sign conventions is shown in Figure 1. The reference dimensions used for data reduction are presented in Table V. The Moment Reference Point (MRP) was taken to be the ET's dry weight center of gravity at station $X_T = 1395.4$ inches full scale. This put the MRP 3.259 inches from the model's nose, on the tank centerline. The transfer distances from the balance moment center to the MRP for the various model arrangements are shown in Table VI. Tunnel conditions are listed in Table II. No base or cavity pressure measurements were made; therefore, no base drag corrections were made to the

axial force data. All data were corrected for weight tares and sting deflections.

Schlieren photographs were made to check interference of any shocks reflected off tunnel walls or for separation of the tunnel boundary layer. No significant condition of reflected shocks off tunnel walls or separation of tunnel boundary layer was encountered during the test.

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DRAWINGS

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2. VL72-000088 "D", 8-3-73; Shuttle Configuration Control, MCR 0200 Baseline Rev. III, Dated 7-2-73; Rockwell International.
3. VL78-000031 "A", 6-29-73; Thermal Protection-External Tank MCR 0200 Baseline Dated 4-11-73; Rockwell International.
4. VL77-000051 "A", 9-10-73; SRB Single Pt.-Fwd Thrust Fitting (MCR 0190 Rev. 3 Baseline 8-13-73); Rockwell International.
5. SS-A01176 (Wind Tunnel Model Group); Details - .015 Scale EOHT Attachments (140 A/B) (67-OTS) 11-20-73; Rockwell International.
6. VL78-000041 "A", 5-30-73; External Tank Configuration Control MCR 0200 Revision 1 Dated 5-16-73; Rockwell International.

TABLE I. MODEL COMPONENT DIMENSIONS

MODEL COMPONENT: EXTERNAL TANK - T12

GENERAL DESCRIPTION: EXTERNAL OXYGEN - HYDROGEN TANK WITH OGIVE NOSE AND
SEMI-ELLIPTICAL TAIL. BEGINNING AT MODEL TANK STATION 0.927 AND ENDING AT STATION
6.522

MODEL SCALE: 0.003REFERENCE DRAWING: VL78-000041B

<u>DIMENSIONS:</u>	THEORETICAL	
	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length IN. (NOSE @ $X_T=309$)	<u>1865</u>	<u>5.595</u>
Max. Width, IN. (DIA.)	<u>324</u>	<u>0.972</u>
Max. Depth	<u> </u>	<u> </u>
Fineness Ratio	<u>5.756</u>	<u>5.756</u>
Area	<u> </u>	<u> </u>
Max. Cross-Sectional	<u>572.555 FT²</u>	<u>0.742 IN.²</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u>572.555 FT²</u>	<u>0.742 IN.²</u>
WL OF TANK CENTERLINE, IN.	<u>400</u>	<u>1.200</u>

Table I Continued

MODEL COMPONENT: ATTACH STRUCTURE - AT₅

GENERAL DESCRIPTION: FORWARD ORBITER/ET ATTACH STRUCTURE

(2 MEMBERS)

MODEL SCALE = 0.003

MODEL SCALE: _____

REFERENCE DRAWING: VL72-000088D

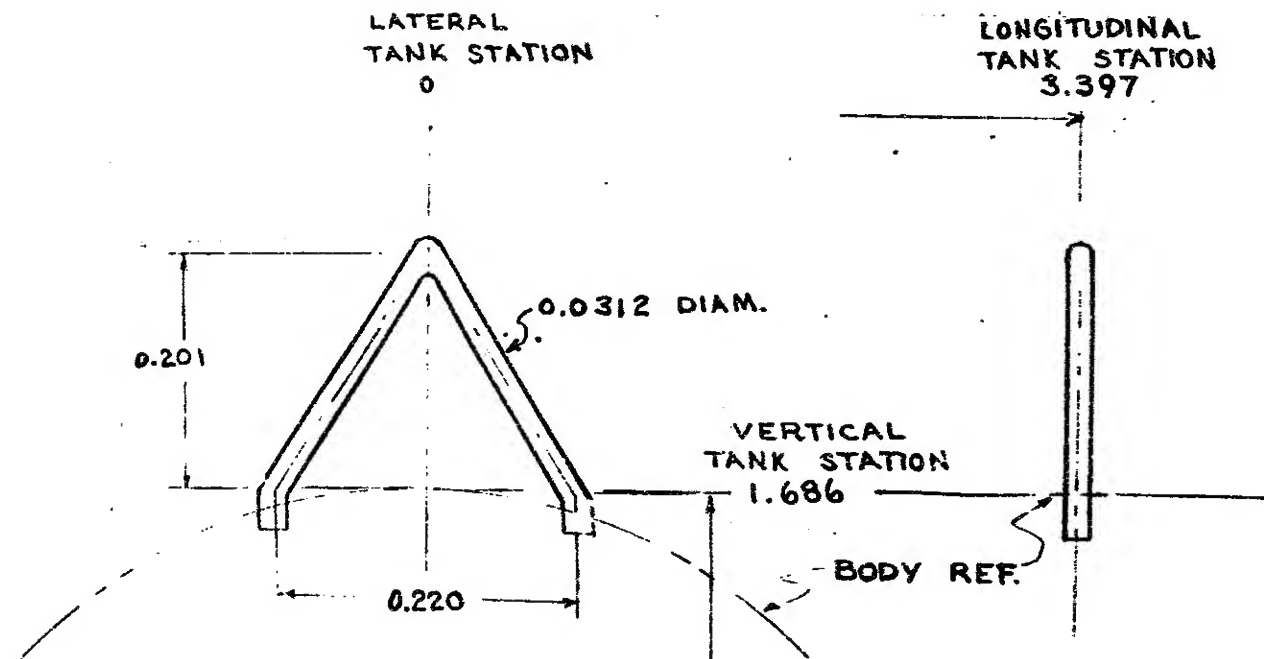


Table I Continued

MODEL COMPONENT: ATTACH STRUCTURE - AT₆

GENERAL DESCRIPTION: LEFT REAR ORBITER/ET ATTACH STRUCTURE (2 MEMBERS)

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000050

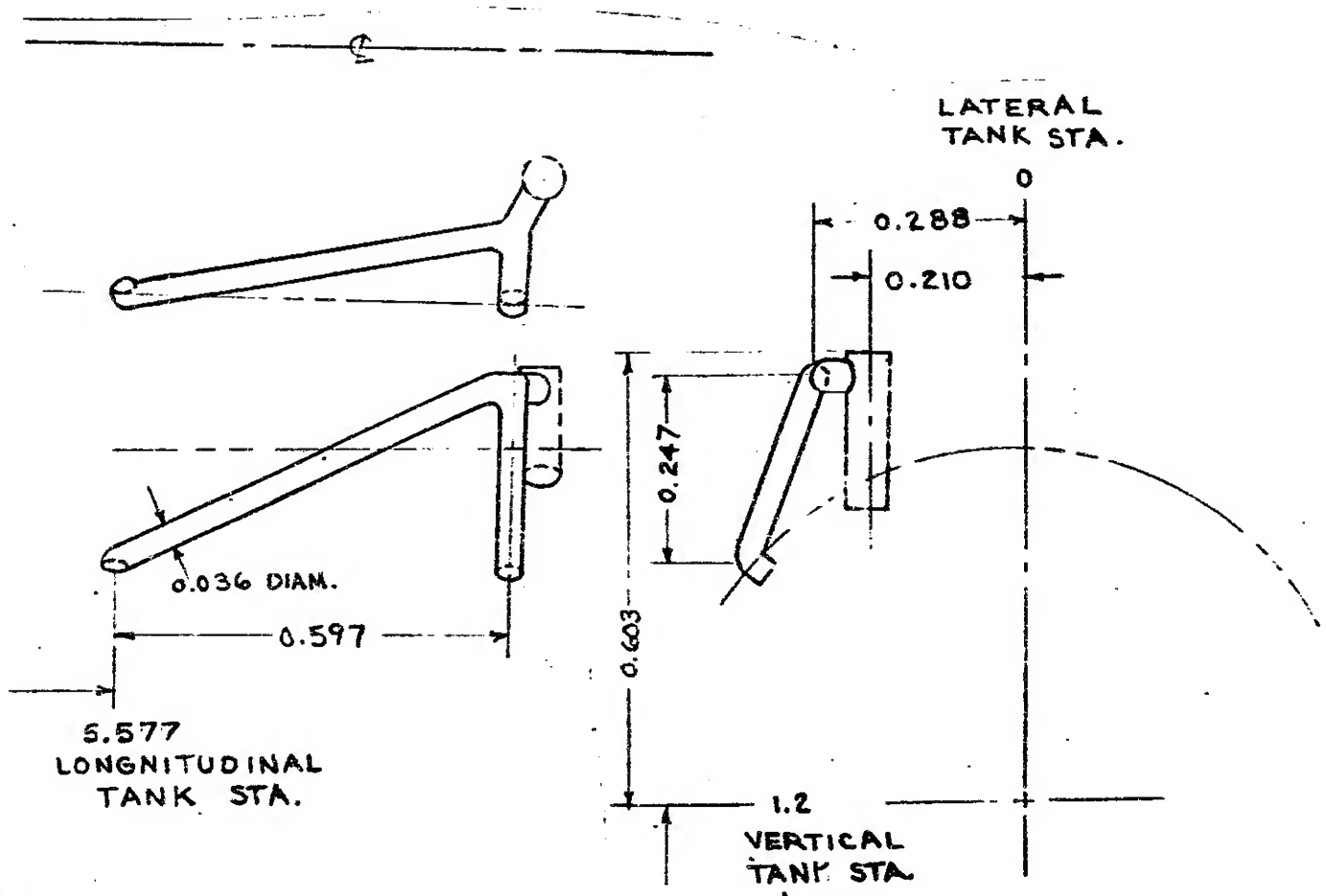


Table I. Continued

MODEL COMPONENT: ATTACH STRUCTURE - AT₇

GENERAL DESCRIPTION: RIGHT REAR ORBITER/ET ATTACH STRUCTURE (3 MEMBERS)

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000050

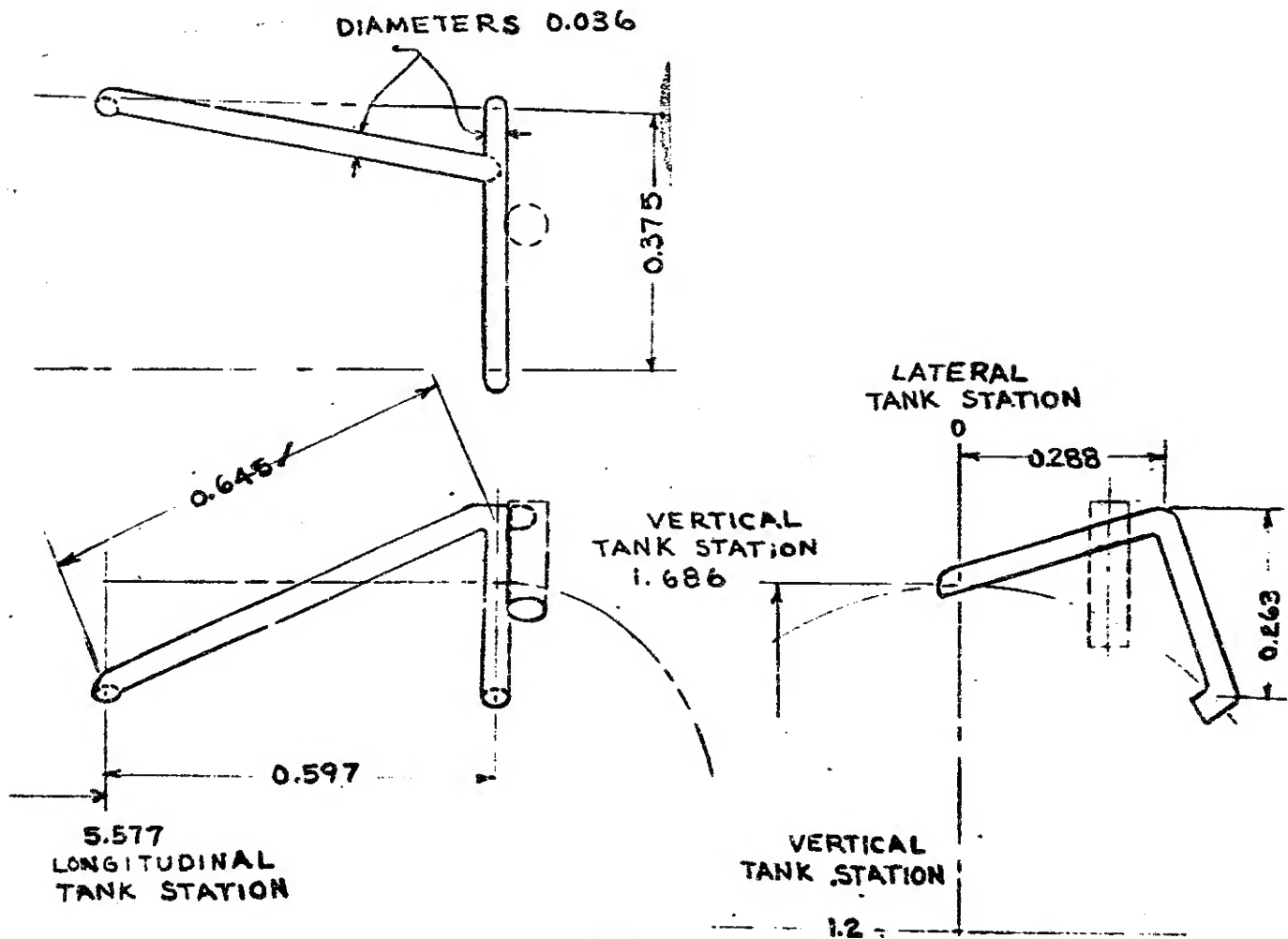


Table I Continued

MODEL COMPONENT: ATTACH STRUCTURE - AT₈

GENERAL DESCRIPTION: FORWARD SRB/ET ATTACH STRUCTURE (ET PORTION TESTED ONLY)

MODEL SCALE: 0.003

REFERENCE DRAWING: VL77-000051A

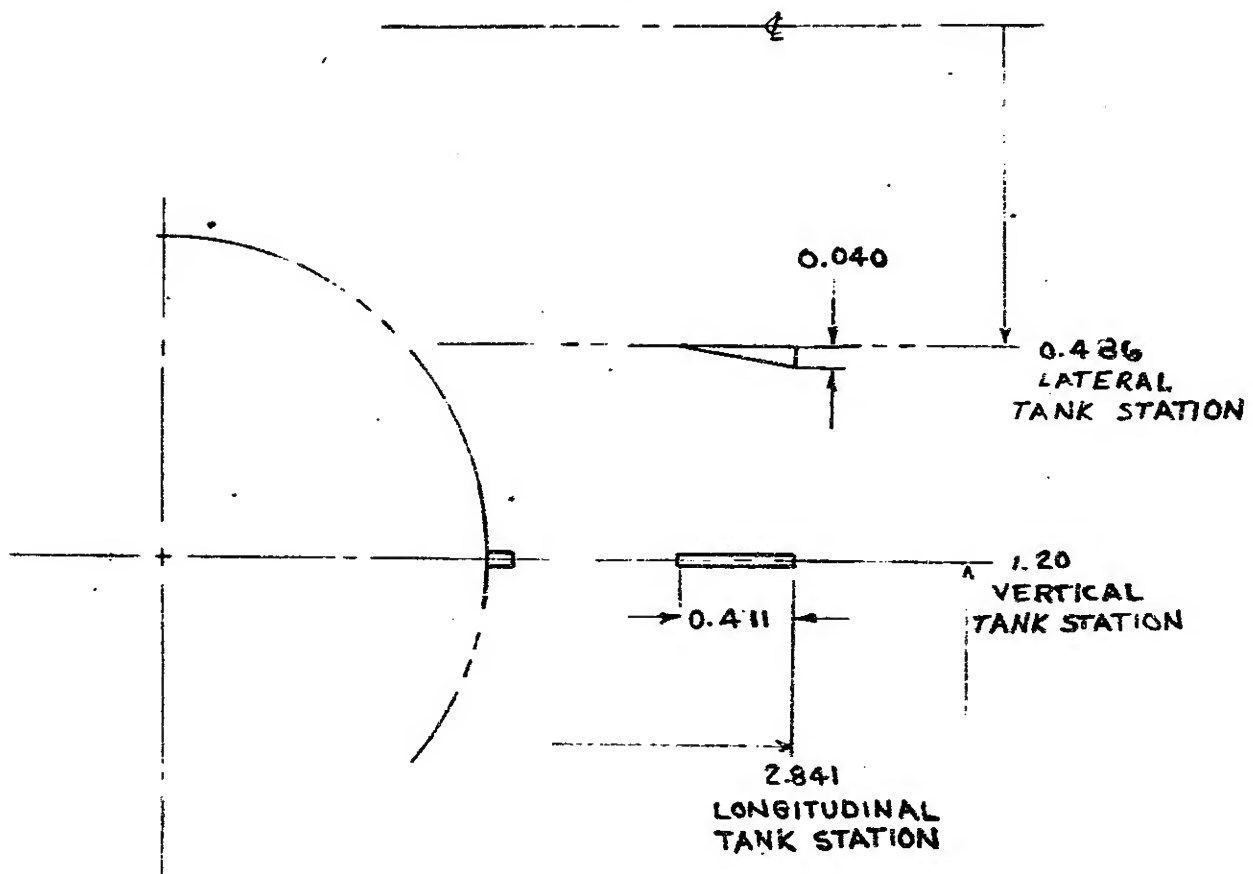


Table I Continued

MODEL COMPONENT: ATTACH STRUCTURE - AT₉

GENERAL DESCRIPTION: AFT SRB/ET ATTACH STRUCTURE (3 MEMBERS) (ET PORTION TESTED ONLY)

MODEL SCALE: 0.003

REFERENCE DRAWING: VL72-000106

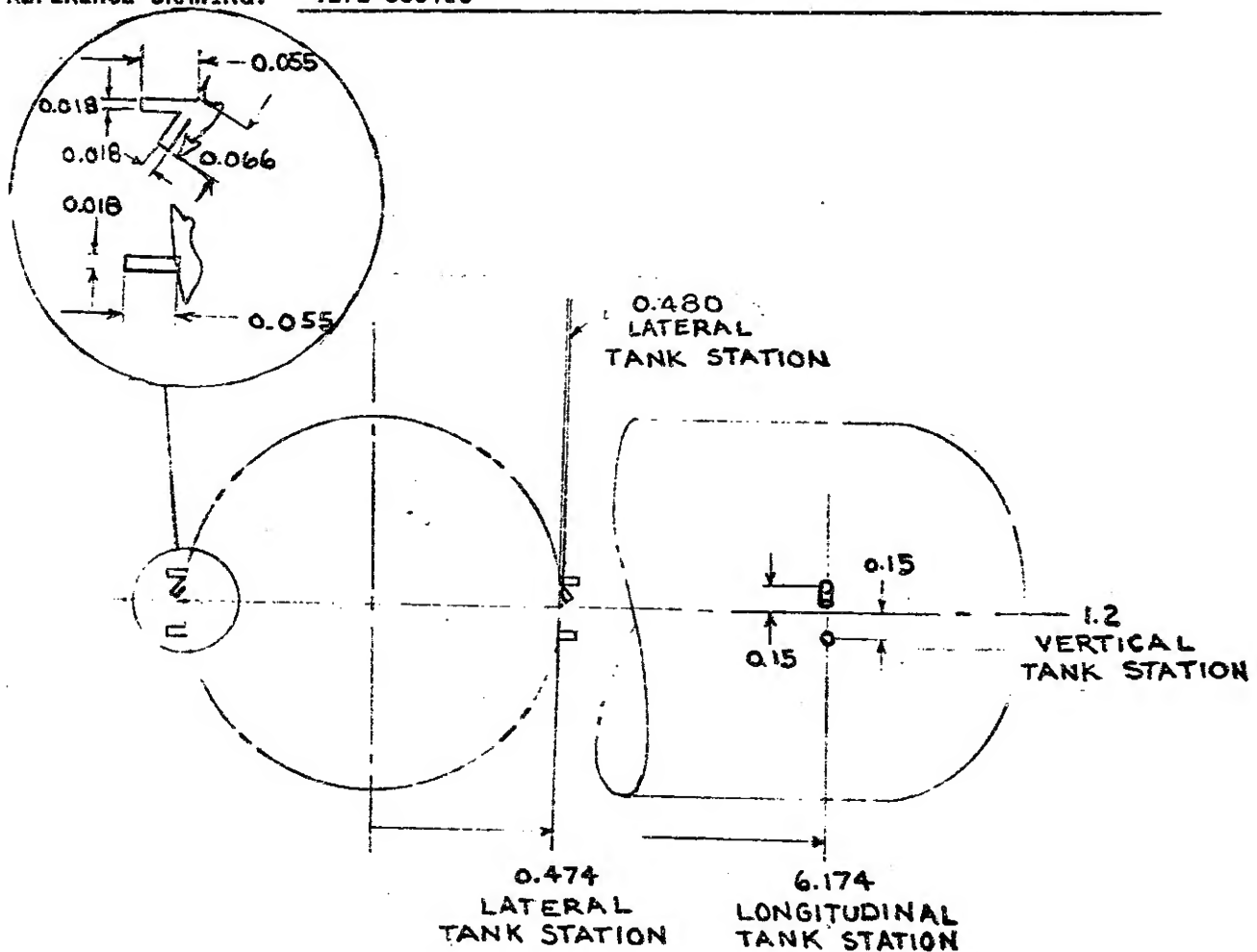


Table I Continued

MODEL COMPONENT: LOX VENT LINE FAIRING - PT₁

GENERAL DESCRIPTION: VENT LINE ALONG UPPER RIGHT SIDE OF ET OGIVE NOSE

BEGINNING AT MODEL STATIONS $X_T = 0.927$, $Y_T = 0$, AND $Z_T = 1.2$; TERMINATING AT
 $X_T = 2.841$, $Y_T = 0.162$, $Z_T = 1.658$

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000031A

<u>DIMENSIONS:</u>	THEORETICAL	
	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length	<u>638</u>	<u>1.914</u>
Max. Width	<u>17.7</u>	<u>0.053</u>
Max. Depth	<u>9.3</u>	<u>0.028</u>
Fineness Ratio	<u> </u>	<u> </u>
Area	<u> </u>	<u> </u>
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>
Radial Position	<u>19 1/2°</u>	<u>19 1/2°</u>

Table I Continued

MODEL COMPONENT: LOX FEED LINE - PT₂

GENERAL DESCRIPTION: LONGITUDINAL FUEL LINE ALONG UPPER RIGHT SIDE OF ET

BEGINNING AT MODEL STATIONS $X_T = 2.841$, $-Y_T = 0.194$, AND $Z_T = 1.645$; TERMINATING

AT $X_T = 6.116$, $-Y_T = 0.194$, AND $Z_T = 1.645$

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000031A

THEORETICAL

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length	<u>1092</u>	<u>3.275</u>
Max. Width	<u>30.7</u>	<u>0.092</u>
Max. Depth Height	<u>28</u>	<u>0.084</u>
Fineness Ratio	<u></u>	<u></u>
Area	<u></u>	<u></u>
Max. Cross-Sectional	<u></u>	<u></u>
Planform	<u></u>	<u></u>
Wetted	<u></u>	<u></u>
Base	<u></u>	<u></u>
Radial Position	<u>23 1/2°</u>	<u>23 1/2°</u>

Table I Continued

MODEL COMPONENT: LH₂ FEED LINE - PT₃

GENERAL DESCRIPTION: LONGITUDINAL FUEL LINE ALONG UPPER LEFT SIDE OF ET

BEGINNING AT MODEL STATIONS $X_T = 2.841$, $Y_T = 0.275$, AND $Z_T = 1.601$

TERMINATING AT STATIONS $X_T = 6.116$, $Y_T = 0.275$, AND $Z_T = 1.601$

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000031A

DIMENSIONS:	THEORETICAL	
	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length	<u>1092</u>	<u>3.275</u>
Max. Width	<u>25.7</u>	<u>0.077</u>
Max. Depth	<u>14.7</u>	<u>0.044</u>
Fineness Ratio	<u> </u>	<u> </u>
Area	<u> </u>	<u> </u>
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>
Radial Position	<u>-33°</u>	<u>-33°</u>

Table I Continued

MODEL COMPONENT: LH₂ FEED LINE - PT₃

GENERAL DESCRIPTION: LONGITUDINAL FUEL LINE ALONG UPPER LEFT SIDE OF ET

BEGINNING AT MODEL STATIONS $X_T = 2.841$, $Y_T = 0.275$, AND $Z_T = 1.601$

TERMINATING AT STATIONS $X_T = 6.116$, $Y_T = 0.275$, AND $Z_T = 1.601$

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000031A

DIMENSIONS:	THEORETICAL	
	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length	<u>1092</u>	<u>3.275</u>
Max. Width	<u>25.7</u>	<u>0.077</u>
Max. Depth	<u>14.7</u>	<u>0.044</u>
Fineness Ratio	<u> </u>	<u> </u>
Area	<u> </u>	<u> </u>
Max. Cross-Sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>
Radial Position	<u>-33°</u>	<u>-33°</u>

Table I Continued

MODEL COMPONENT: LX FEED LINE - FL₁

GENERAL DESCRIPTION: 18-INCH DIAMETER VERTICAL FUEL LINE AT AFT END OF ET ON
RIGHT

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000050

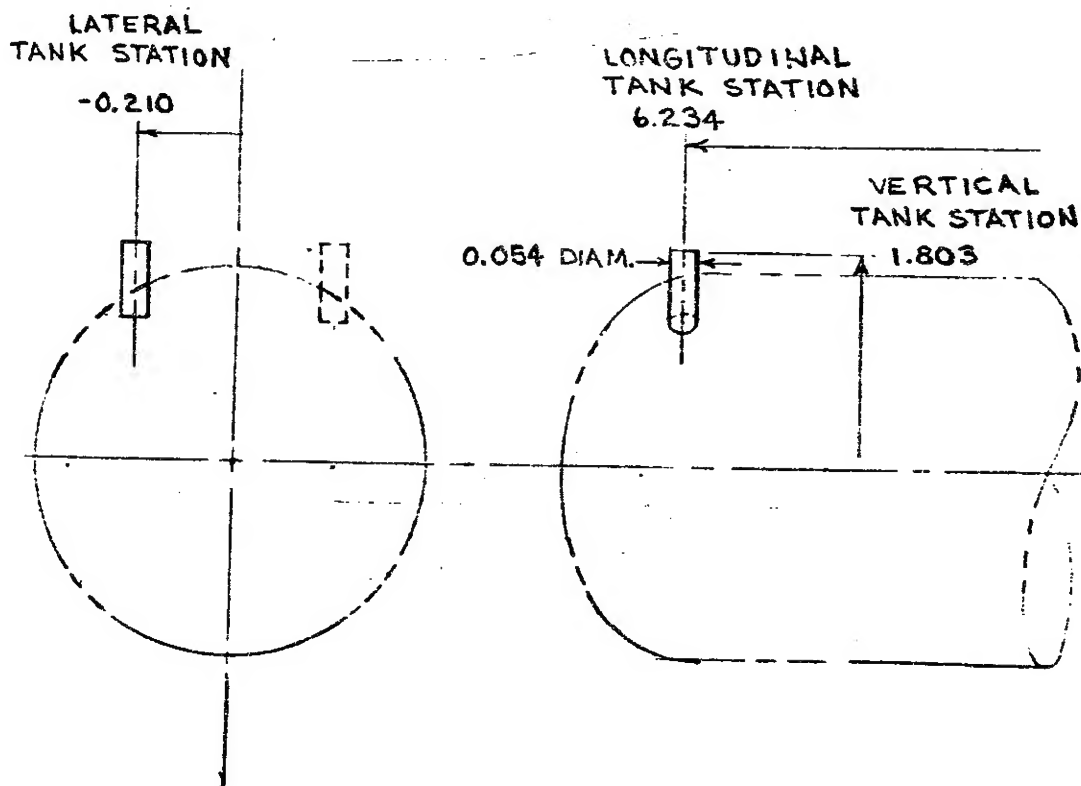


Table I. Continued

MODEL COMPONENT: LH₂ FEED LINE - FL₂

GENERAL DESCRIPTION: 18-INCH DIAMETER VERTICAL FUEL LINE AT AFT END OF ET
ON LEFT

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000050

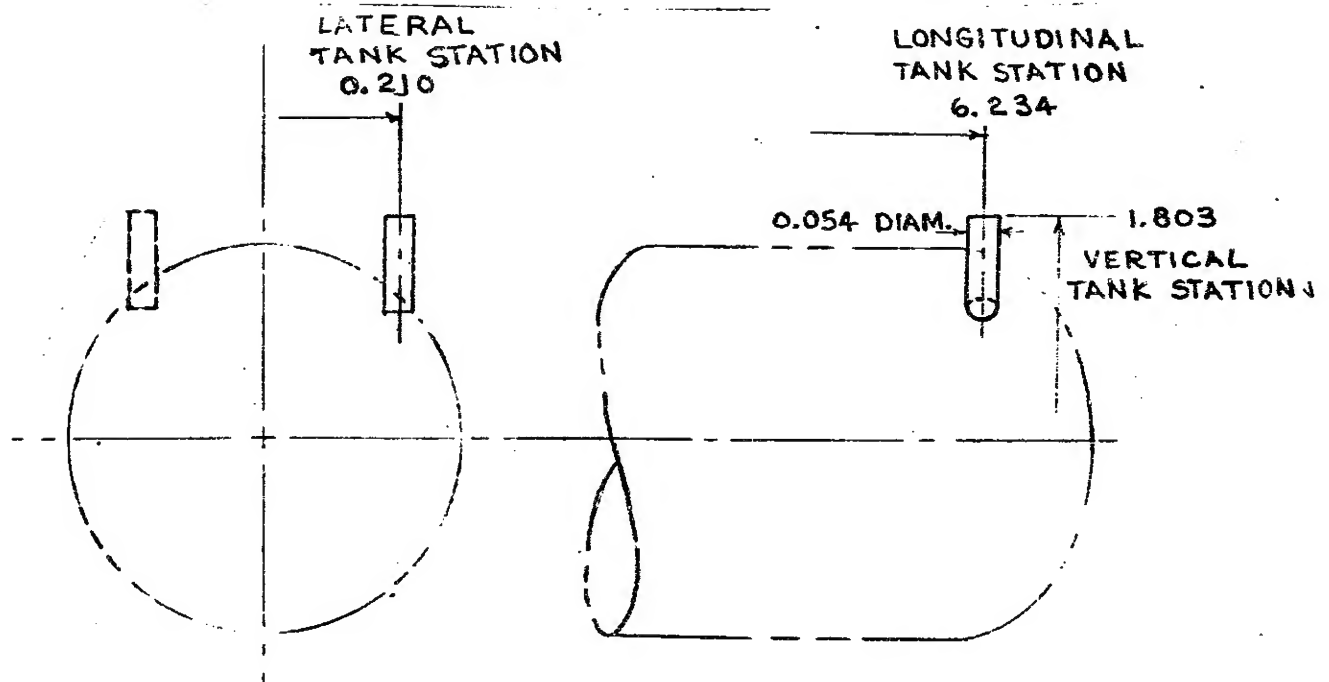


TABLE I. Continued

MODEL COMPONENT: ATTACH STRUCTURE - FR₆

GENERAL DESCRIPTION: AFT ET/ORBITER CROSS MEMBER (CROSS SECTION 11 IN. x 15 IN.)

LOCATED AT ET-STATION 2050.5

MODEL SCALE: 0.003

REFERENCE DRAWING: FIGURE 3, MARTIN MARIETTA MEMO SA-A-74-9

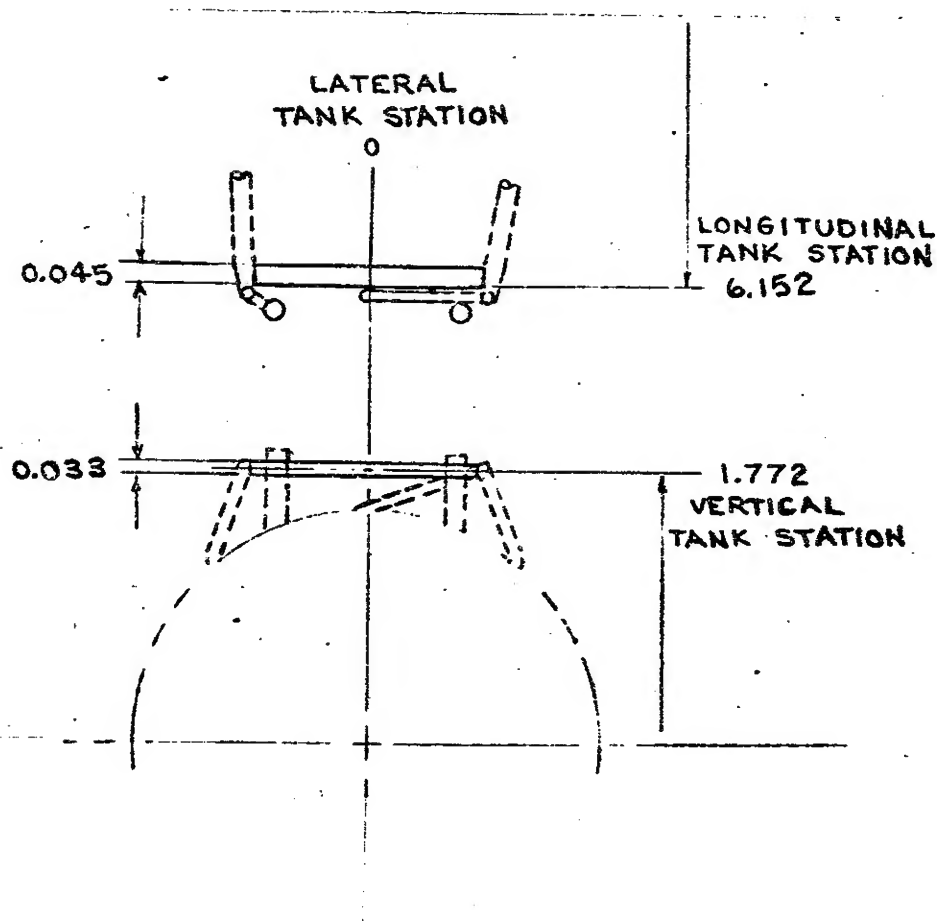


TABLE II

[illegible]

TABLE III. ANGLE OF ATTACK NOMENCLATURE

ANGLE OF ATTACK DESIGNATOR	ANGLE OF ATTACK RANGE AND INCREMENT*
A	-10° to 10° by $\Delta\alpha = 4^\circ$
B	10° to 30°
C	30° to 50°
D	50° to 70°
E	70° to 90°
F	80° to 100°
G	90° to 110°
H	110° to 130°
I	130° to 150°
J	150° to 170°
K	170° to 190°

* Sector Angles to be -10, -8, -4, 0, 4, 8, 10, and 0°

TABLE IV.

TEST: MSFC TWT 583										DATE: 5 MARCH 1974									
DATA SET/RUN NUMBER COLLATION SUMMARY										TEST RUN NUMBERS									
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES		NO. OF RUNS	MACH NUMBERS (1 OR ALTERNATE INDEPENDENT VARIABLE)												
		α	β	φ			1.96	3.48	4.96	6.44	7.92	9.40	10.88	12.36	13.84	15.32	16.80	18.28	19.76
R99001	Ti (MCR 0200 ET	A	0	0		3	133/0	1/0	4/0		AA	FWD	0						
002	PER 41 "B" LINES	B				3	134/0	2/0	3/0		BB	FWD	20						
003	WITH CROSSBAR	D				3	97/0	95/0	96/0		II	UP	60						
004	ADDED, PLUS	F				3	98/0	94/0	93/0		KK	UP	90						
007	#120 GRIT)	G				3	111/0	113/0	114/0		JJ	DN	160						
005		H				3	112/0	61/0	62/0		II	DN	120						
006		I				3	130/0	60/0	59/0		CC	AFT	140						
007		J				3	131/0	57/0	58/0		BB	AFT	160						
008		K		✓		3	132/0	56/0	55/0		AA	AFT	180						
009		A		45		1			5/0		AA	FWD	0						
010		B				1			6/0		BB	FWD	20						
011		D				1			91/0		II	UP	60						
012		F				1			92/0		KK	UP	90						
013		H				1			63/0		II	DN	120						
014		I				1			52/0		CC	AFT	140						
015		J				1			53/0		BB	AFT	160						
✓ 016	✓	K		✓		1			54/0		AA	AFT	180						
MISSILE AXIS SYSTEM		19	25	31	37	43	49	55	61	67	73	79	85	91	97	103	109	115	121
CNM		CLMM	ICYM	CCYM	CCBL	CCBL	CAB	XCP/L	ICPBL	ICFC	MACH	ALPHA	1.0	DOV					
		A: -10°→10°, D: 50°→70°, G: 90°→110°, I: 130°→150°, K: 170°→190° SECTOR ANGLES FOR ALL OF THE α																	
		B: 10°→30°, F: 80°→100°, H: 110°→130°, J: 150°→170° SCHEDULES WERE -10°, -8°, -4°, 0°, 4°, 8°, 10°, 0°																	
		α OR β																	
		SCHEMULES																	

TABLE IV - Continued

TEST: MSFC TWT 583										DATE: 5 MARCH 1974																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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DATA SET IDENTIFIER	CONFIGURATION	SCHD. PARAMETERS/VALUES			NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)										TEST RUN NUMBERS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
		α	β	ϕ		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
R99017	T1	A	0	90	3	1.96	3.48	4.96								AA	FWD	0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

TEST: MSFC TWT 583

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE: 5 MARCH 1974

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES		NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)				TEST RUN NUMBERS			
		α	β	ϕ			1	2	3	4	5	6	7	8
R99033	T ₁	A	0	180		3	1.96	3.48	4.96	16/c	13/0	AA	FWD	C
034		B				3	137/c	15/c	14/0			BB	FWD	20
035		D				3	101/0	83/0	84/0			II	UP	60
036		E				3	102/0	82/0	81/0			KK	UP	90
037		G				3	107/0	117/0	118/0			JJ	DN	100
038		H				3	108/0	68/0	67/0			II	DN	120
039		I				3	124/0	42/0	41/0			CC	AFT	140
040		J				3	125/0	39/0	40/0			BB	AFT	160
041		K		V		3	126/0	38/0	37/0			AA	AFT	180
042		A		225		1			17/0			AA	FWD	0
043		B				1			18/0			BB	FWD	20
044		D				1			79/0			II	UP	60
045		E				1			80/0			KK	UP	90
046		H				1			69/0			II	DN	120
047		I				1			34/0			CC	AFT	140
048		J				1			35/0			BB	AFT	160
V 048	V	K		V		1			36/0			AA	AFT	180

8 on p
SCHEDULES

CONFIDENTIAL

IDVAR (1) IDVAR (2) NDV

TABLE IV - CONTINUED

TEST: MSFC TWT 583

DATE: 5 MARCH 1974

DATA SET / RUN NUMBER COLLATION SUMMARY

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMET	S/VALUES	NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)						STING CODE	NOSE	OFF SET
		A	B				1	2	3	4	5	6			
R99049	T1	A	0	270		3	1.96	3.48	4.96				AA	FWD	0
050		B				3	1400	2100	2200				BB	FWD	20
051		D				3	1390	2000	1900				II	UP	60
052		F				3	1040	7700	7800				KK	UP	90
070		G				3	1030	7600	7500				JJ	DN	100
053		H				3	1060	12000	11900				II	DN	120
054		I				3	1230	3300	3200				CC	AFT	140
055		J				3	1220	3000	3100				BB	AFT	160
056		K		V		3	1210	2900	2800				AA	AFT	180
057		A		315		1			2300				AA	FWD	0
058		B				1			2400				BB	FWD	20
059		D				1			7300				II	UP	60
060		F				1			7400				KK	UP	90
061		H				1			7200				II	DN	120
062		I				1			2600				CC	AFT	140
063		J				1			2500				BB	AFT	160
V 064	V	K	V	V		1			2700				AA	AFT	180

17131925313743495561677376

TEST RUN NUMBERS

OR B

SCHEDULES

COEFFICIENTS

10VAR (1)

10VAR (2)

NDV

TEST: MSFC TWT 583

[illegible]

TABLE V. 0.003-SCALE 324-INCH ET REFERENCE DIMENSIONS

DIMENSION	FULL SCALE	MODEL SCALE
Reference Area, S_{ref} (cross-sectional area of ET)	572.555 ft ²	0.742 in. ²
Reference Length, l_{ref} (ET diameter)	324 in.	0.972 in.
Reference Span, b_{ref} (ET diameter)	324 in.	0.972 in.
Moment Reference Point, MRP (dry weight c.g.)		
XMRP (from nose)	1086.4 in.	3.259 in.
YMRP	0	0
ZMRP	0	0
Base Area, A_b (cross-sectional area of ET)	572.555 ft ²	0.742 in. ²

TABLE VI. MOMENT TRANSFER DISTANCES

MODEL ARRANGEMENT	TRANSFER DISTANCE		
	XMRP	YMRP	ZMRP
Tail-mounted ($\alpha = -10^\circ$ to 100°)	0.243 upstream of BMC	0	0
Nose-mounted ($\alpha = 80^\circ$ to 190°)	0.792 upstream of BMC	0	0
Side-mounted ($\alpha = 50^\circ$ to 100°)	0.320 downstream of BMC	0	0

NOTE: Distances are based on actual model measurements

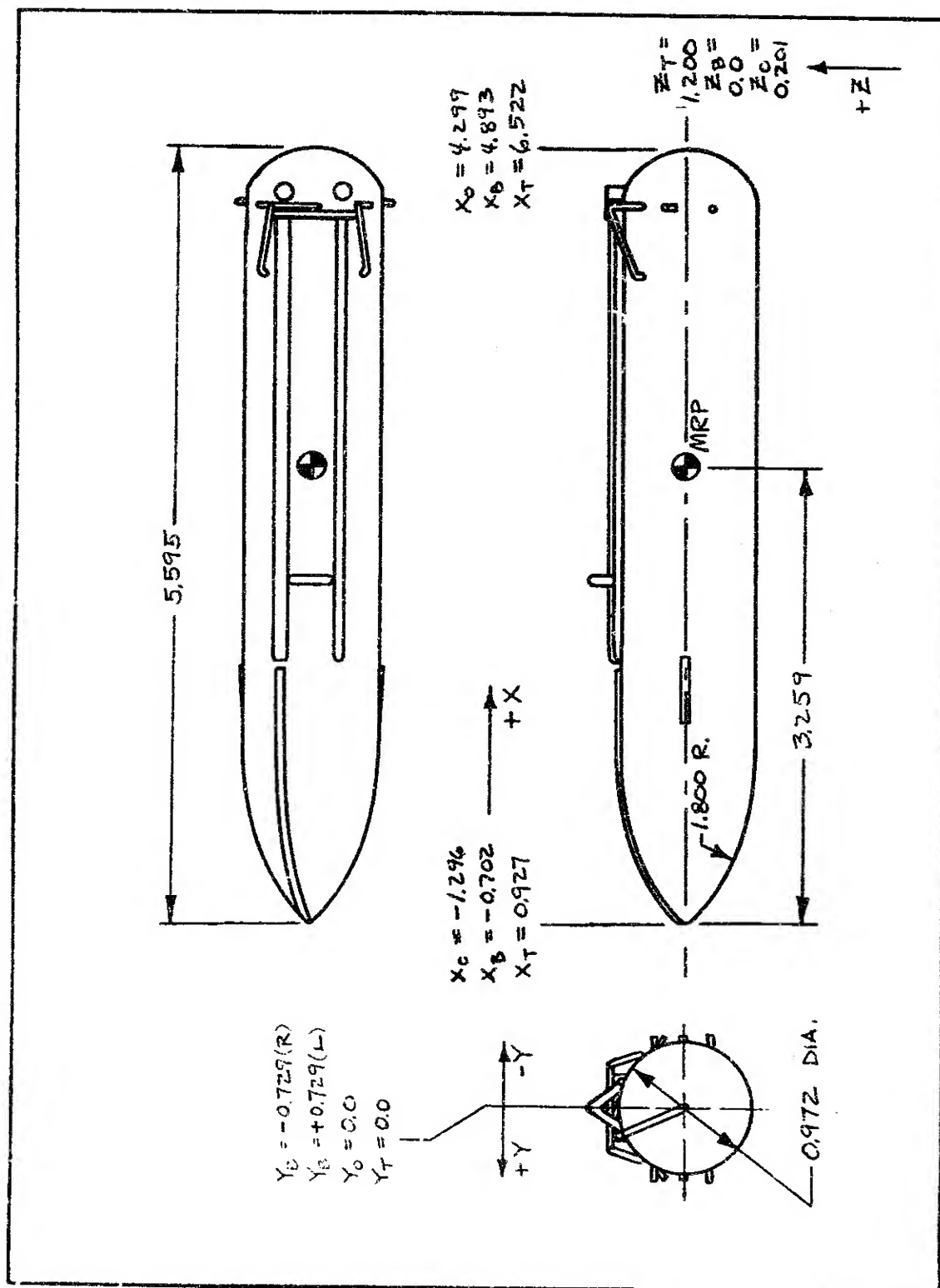


Figure 2. GENERAL ARRANGEMENT OF MSFC MODEL NO. 458, CONFIGURATION T₁, EXTERNAL TANK WITH PROTUBERANCES

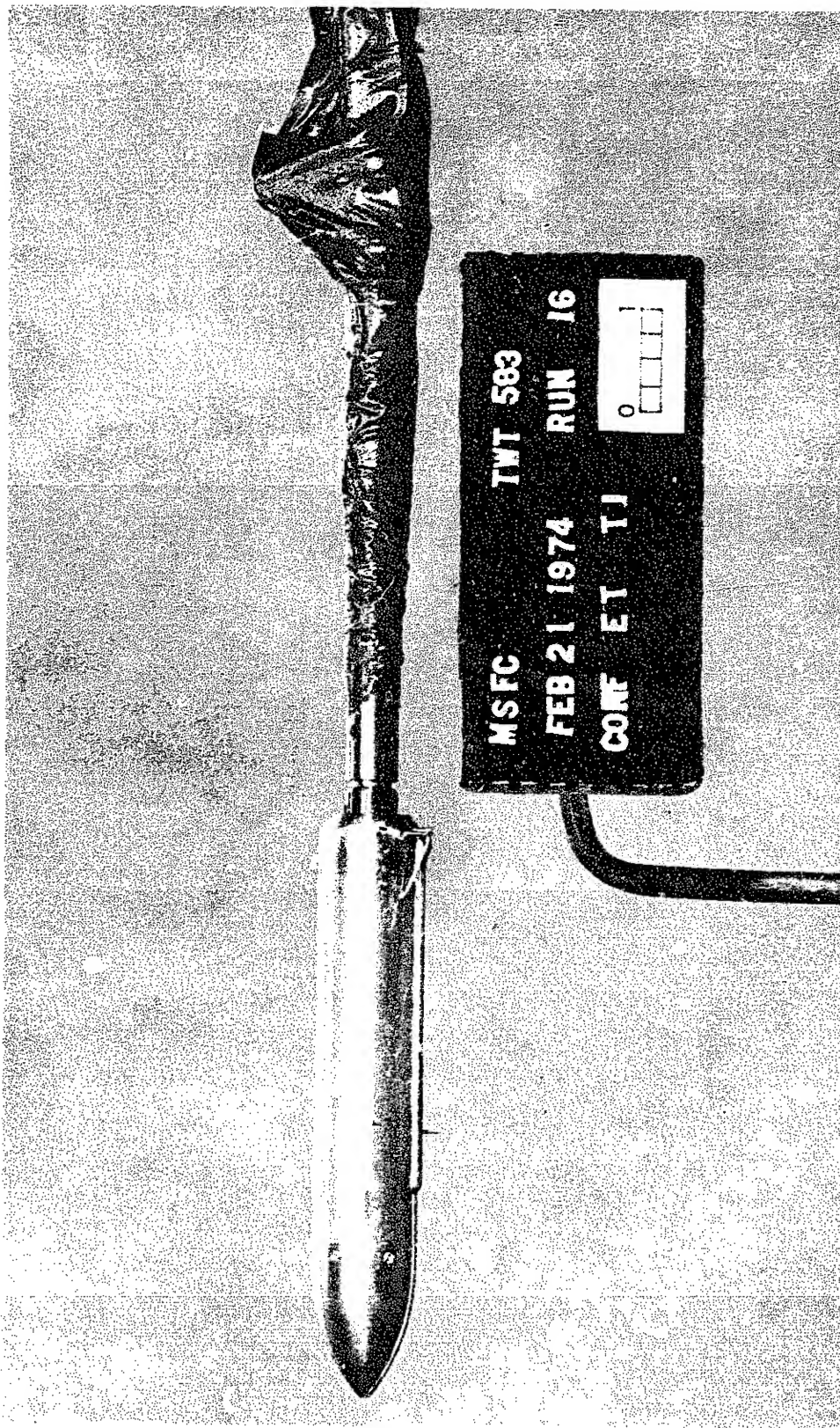


FIGURE 3. EXTERNAL TANK MODEL NO. 458 AT $\phi = 180^\circ$, STING COMBINATION AA, NOSE FORWARD

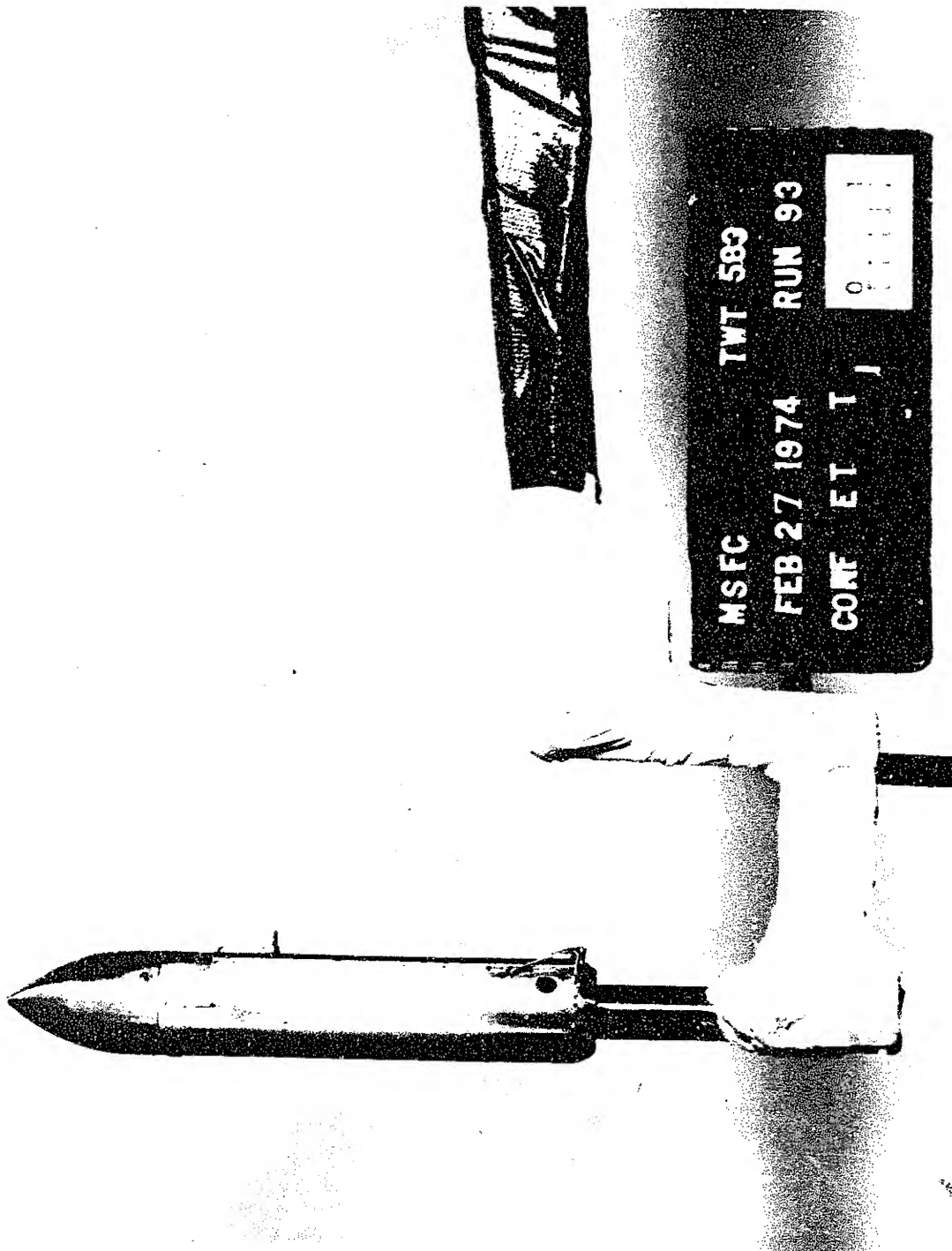


FIGURE 4. EXTERNAL TANK MODEL NO. 458 AT $\psi = 0^\circ$,
STING COMBINATION KK, NOSE UP

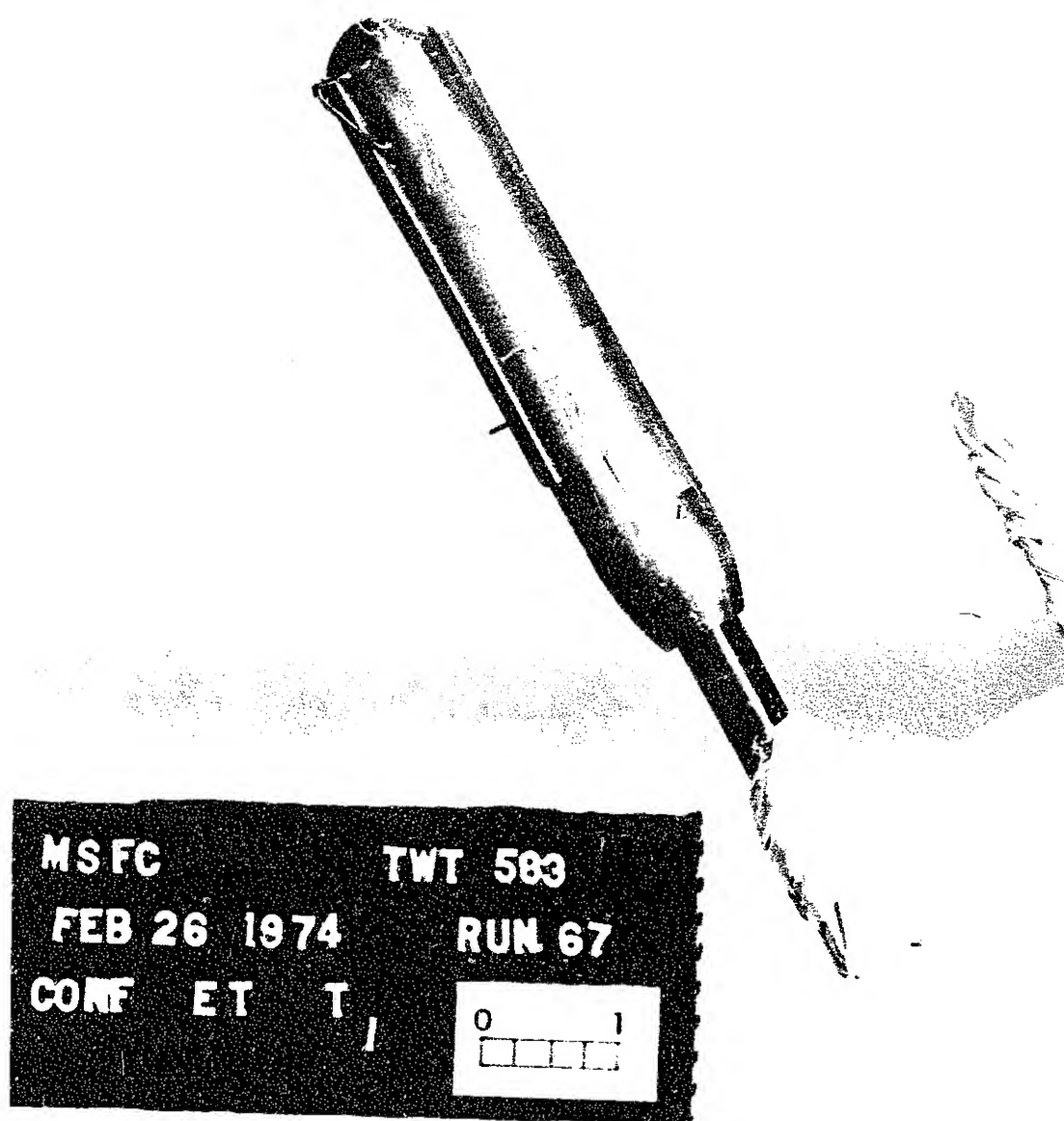


FIGURE 5. EXTERNAL TANK MODEL NO. 458 AT $\alpha = 180^\circ$,
SPRING COMBINATION II, NOSE DOWN

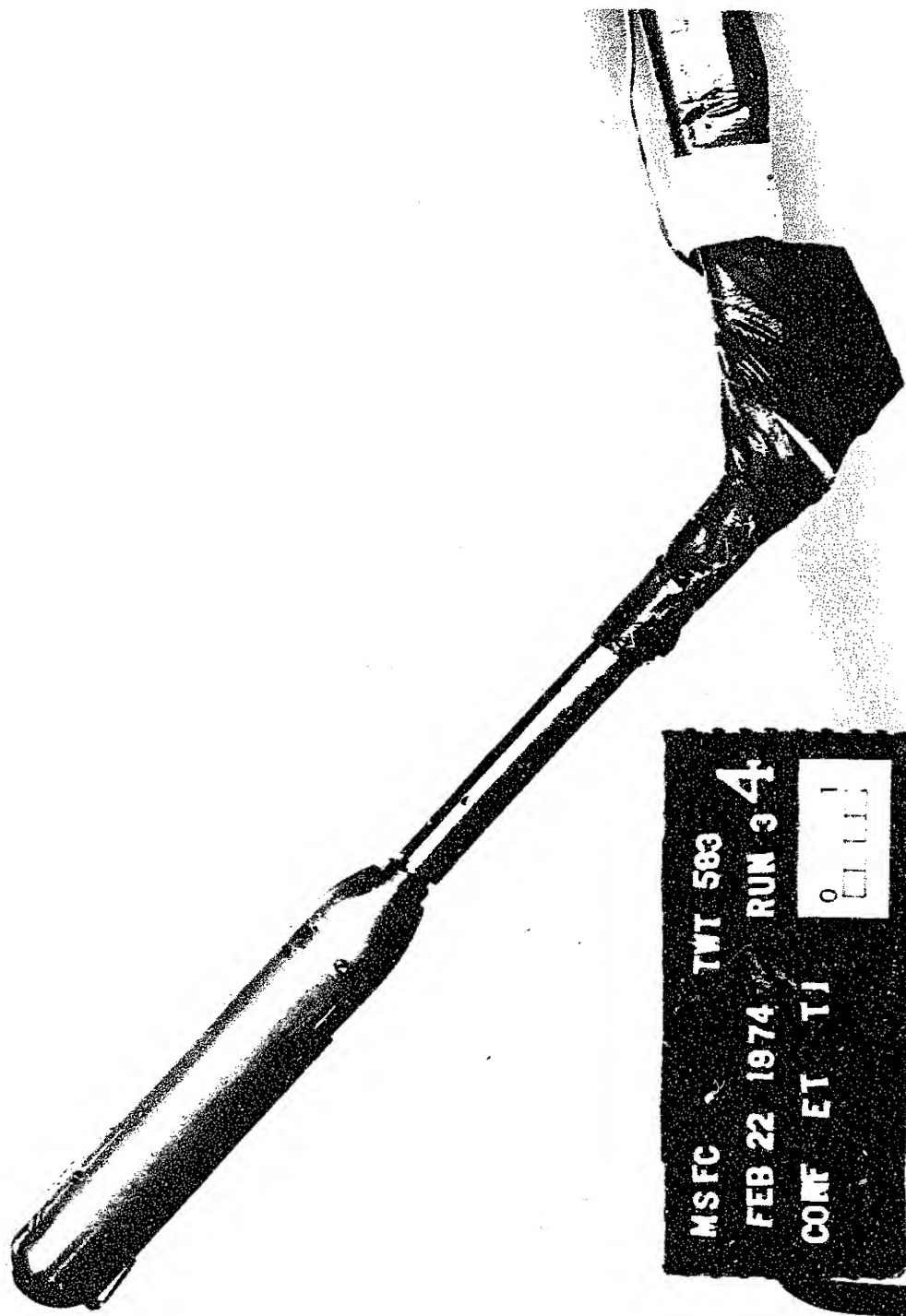


FIGURE 6. EXTERNAL TANK MODEL NO. 458 AT $\phi = 225^\circ$,
STING COMBINATION CC, NOSE AFT

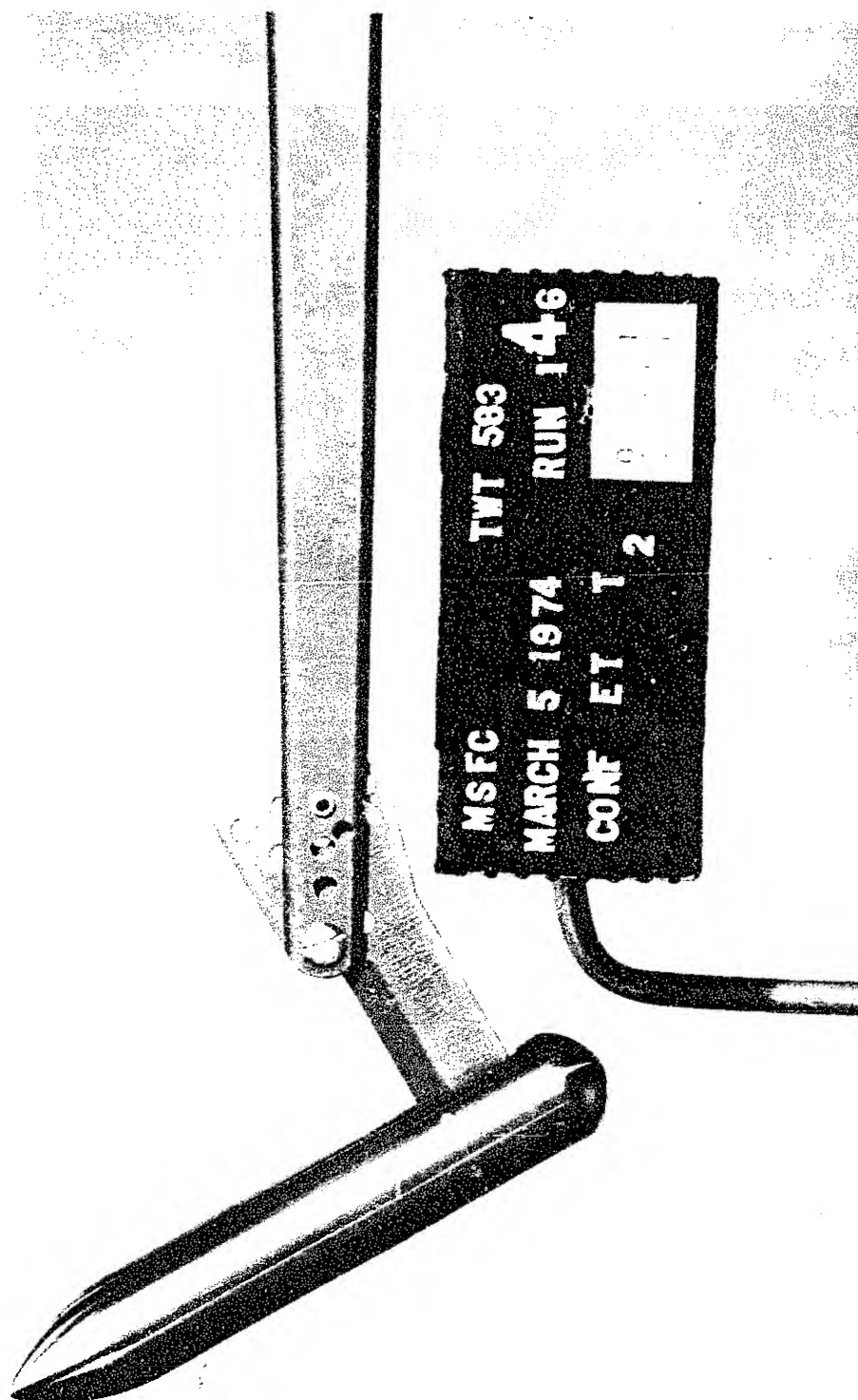
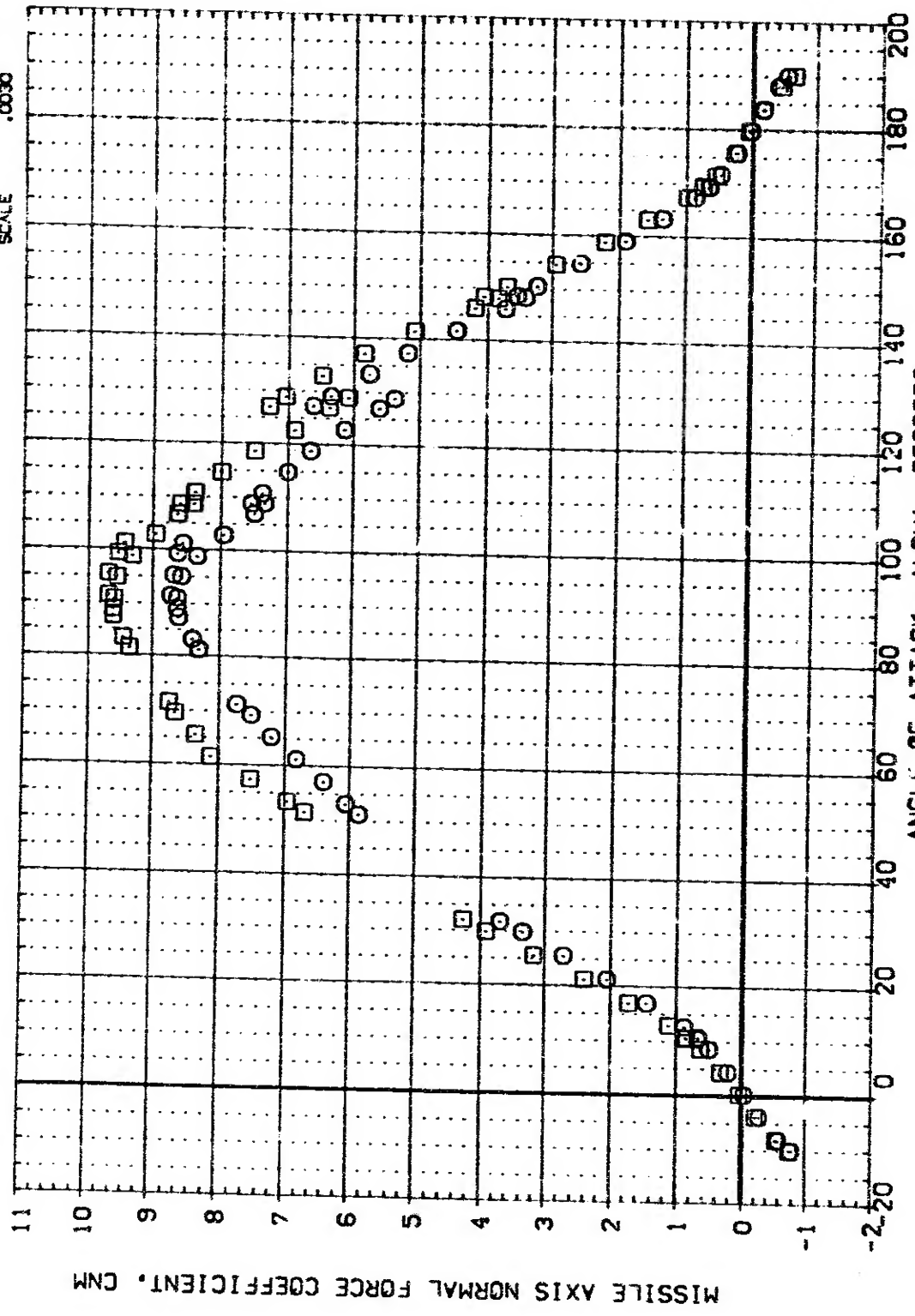


FIGURE 7. EXTERNAL TANK MODEL NO. 458, CLEAN CONFIGURATION,
STING COMBINATION DD, NOSE UP

DATA FIGURES

DATA SET SYMBOL	MSFC 583 (TAIF)	EXTERNAL TANK T1	TAIL MOUNTED	PH	REFERENCE INFORMATION
(B99A01)	MSFC 583 (TAIF)	EXTERNAL TANK T1	NOSE MOUNTED	.000	SREF .7420 50. IN
(B99A02)	MSFC 583 (TAIF)	EXTERNAL TANK T1	NOSE MOUNTED	.000	.REF .9720 IN
(B99C01)	MSFC 583 (TAIF)	EXTERNAL TANK T1	NOSE MOUNTED	90.000	BREF .9720 IN
(B99C02)	MSFC 583 (TAIF)	EXTERNAL TANK T1	NOSE MOUNTED	90.000	YMRP 3.2590 IN
					YMRP .0000 IN
					ZMRP .0000 IN
					SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

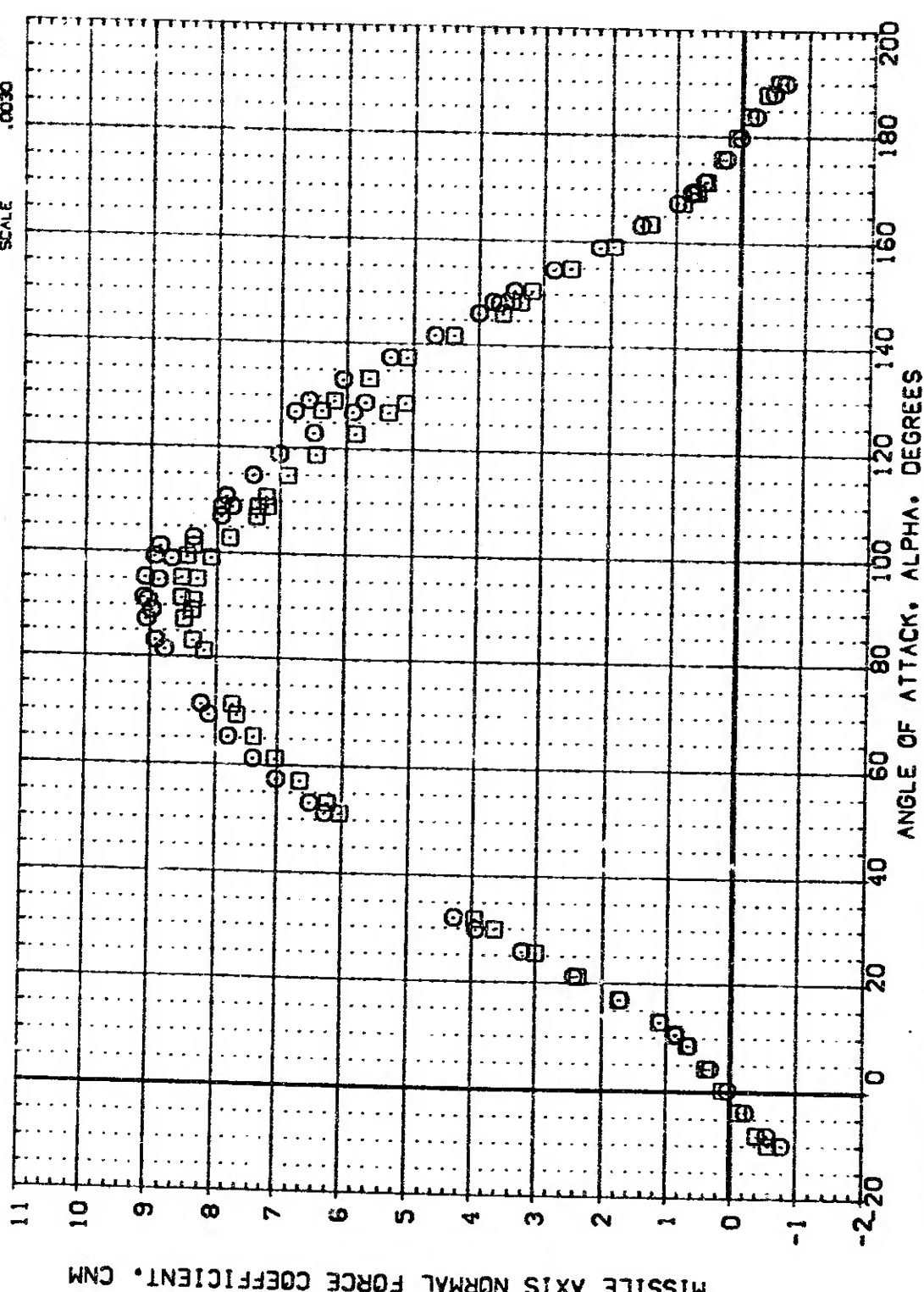
(A)MACH = 1.96

DATA SET SYMBOL: (B99001) (B99002) (B99001) (B99002)

CONFIGURATION DESCRIPTION: MSC 583 (TAIF) EXTERNAL TANK T1; MSC 583 (TAIF) EXTERNAL TANK T1; MSC 583 (TAIF) EXTERNAL TANK T1; MSC 583 (TAIF) EXTERNAL TANK T1

PHI: 270.000 270.000 180.000 180.000

REFERENCE INFORMATION: SREF .7420 IN; LREF .9720 IN; BREF .9720 IN; XMRP 3.2590 IN; YMRP .0000 IN; ZMRP .0000 IN; SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 1.95

DATA SET SYMBOL:

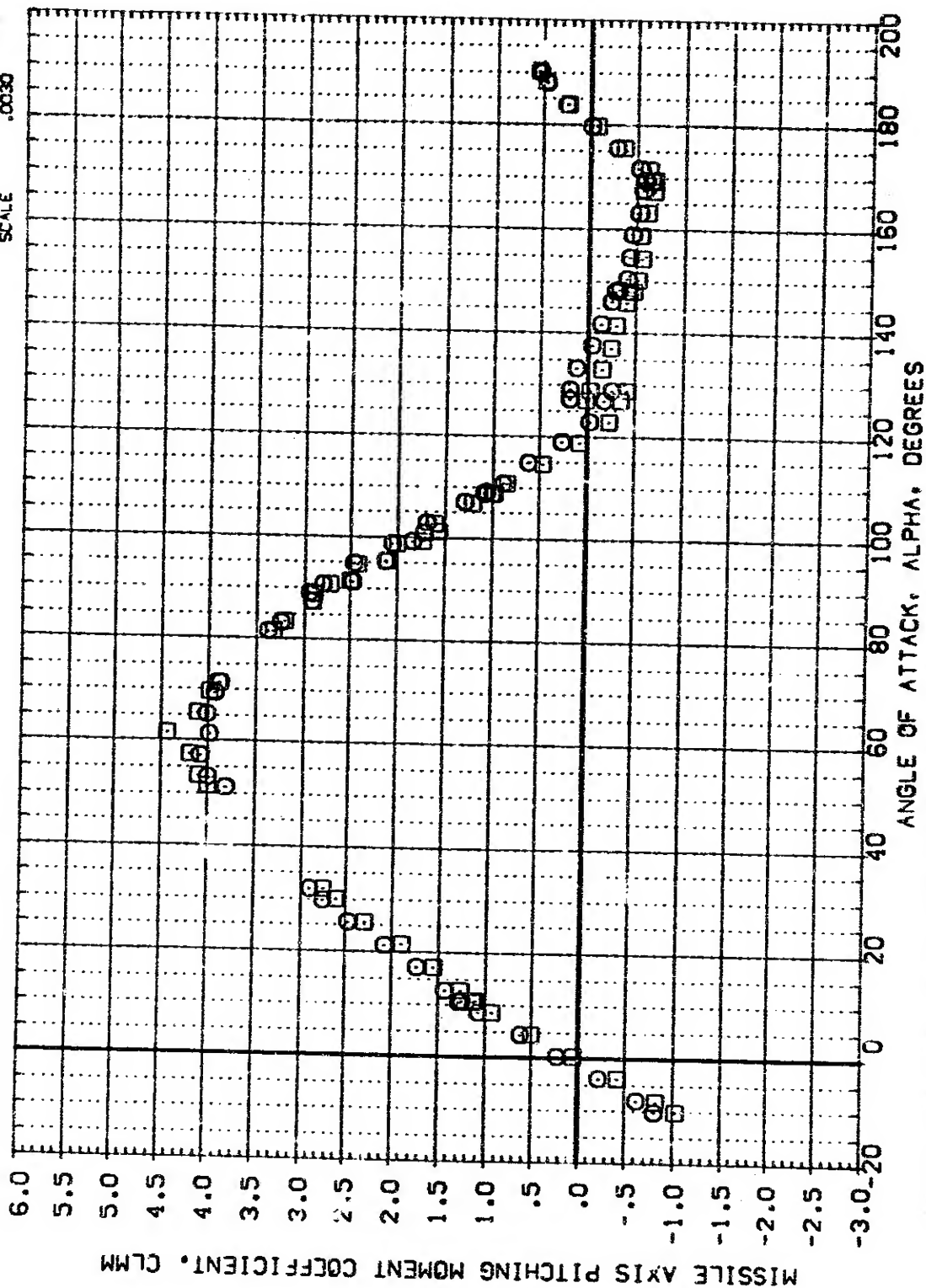
CONFIGURATION DESCRIPTION:

MSFC 583 (TAIF)	EXTERNAL TANK T1:	TAIL MOUNTED
MSFC 583 (TAIF)	EXTERNAL TANK T1:	NOSE MOUNTED
MSFC 583 (TAIF)	EXTERNAL TANK T1:	TAIL MOUNTED
MSFC 583 (TAIF)	EXTERNAL TANK T1:	NOSE MOUNTED

PHI: .000
.000
90.000
90.000

REFERENCE INFORMATION:

SREF	7420	50.	IN
LREF	.9720	IN.	
BREF	.9720	IN.	
XMRP	3.2580	IN.	
YMRP	.0000	IN.	
ZMRP	.0000	IN.	
SCALE	.0030		



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 1.96

DATA SET SYMBOL

(B99G01)
(B99G02)
(B99G01)
(B99G02)

CONFIGURATION DESCRIPTION

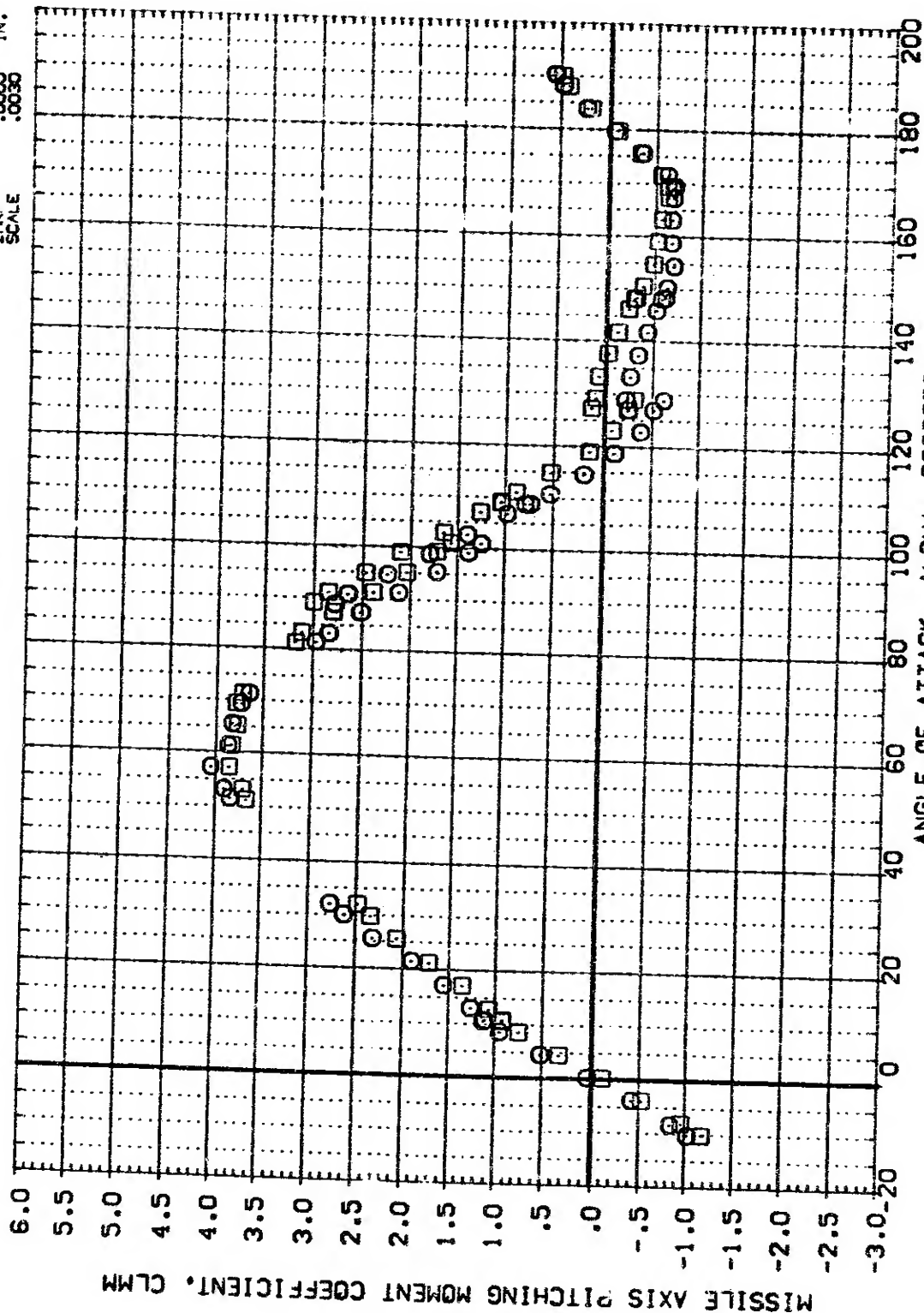
MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED

PHI

270.000
270.000
180.000
180.000

REFERENCE INFORMATION

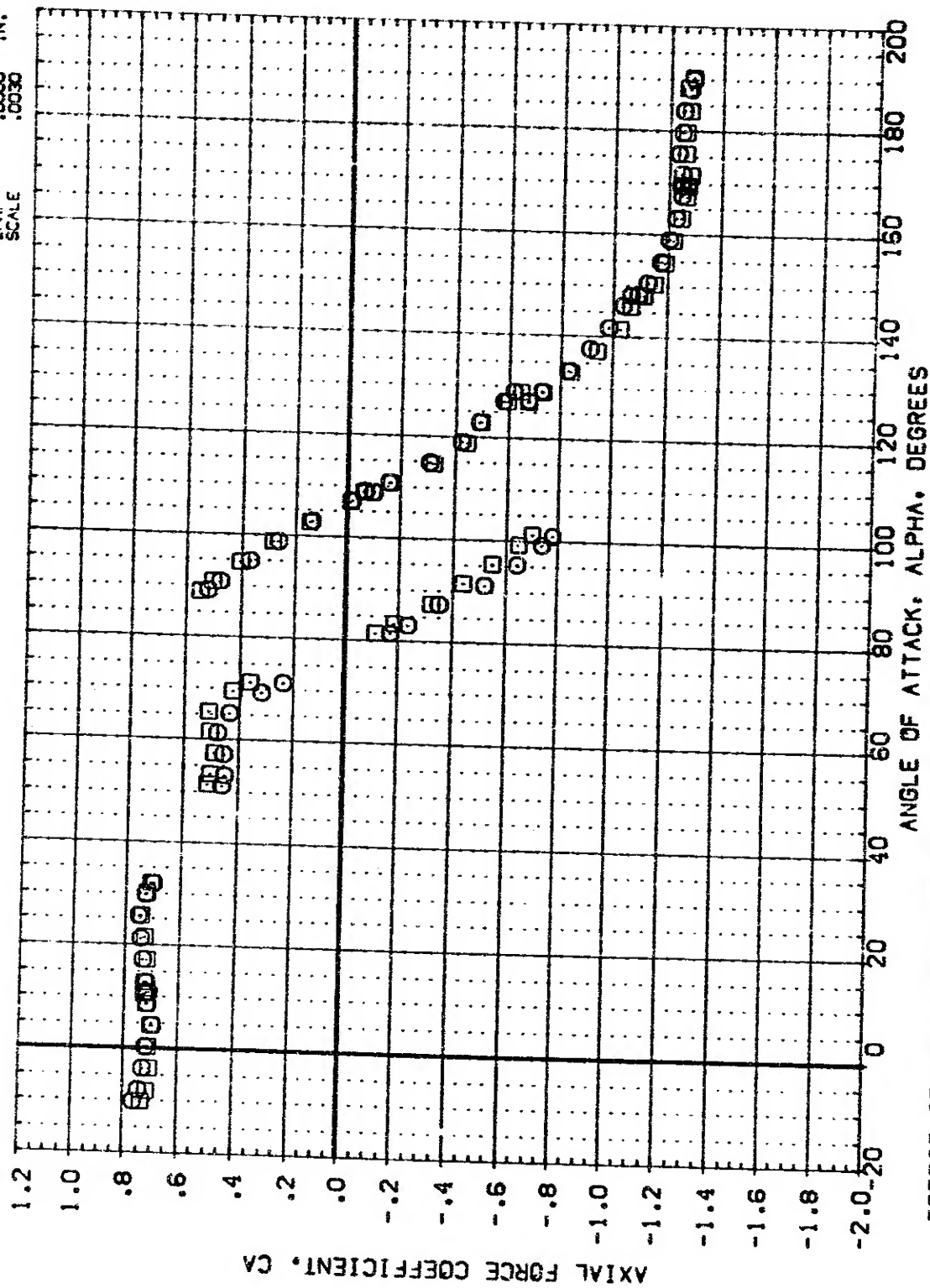
SREF 7420 50. IN
LREF 5720 IN.
BREF 5720 IN.
XMRP 3.2590 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 1.95

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(B99A01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 50. IN
(B99A02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .9720 IN.
(B99C01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	BREF .9720 IN.
(B99C02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	YMRP 3.2590 IN.
			ZMRP .0000 IN.
			SCALE .0030



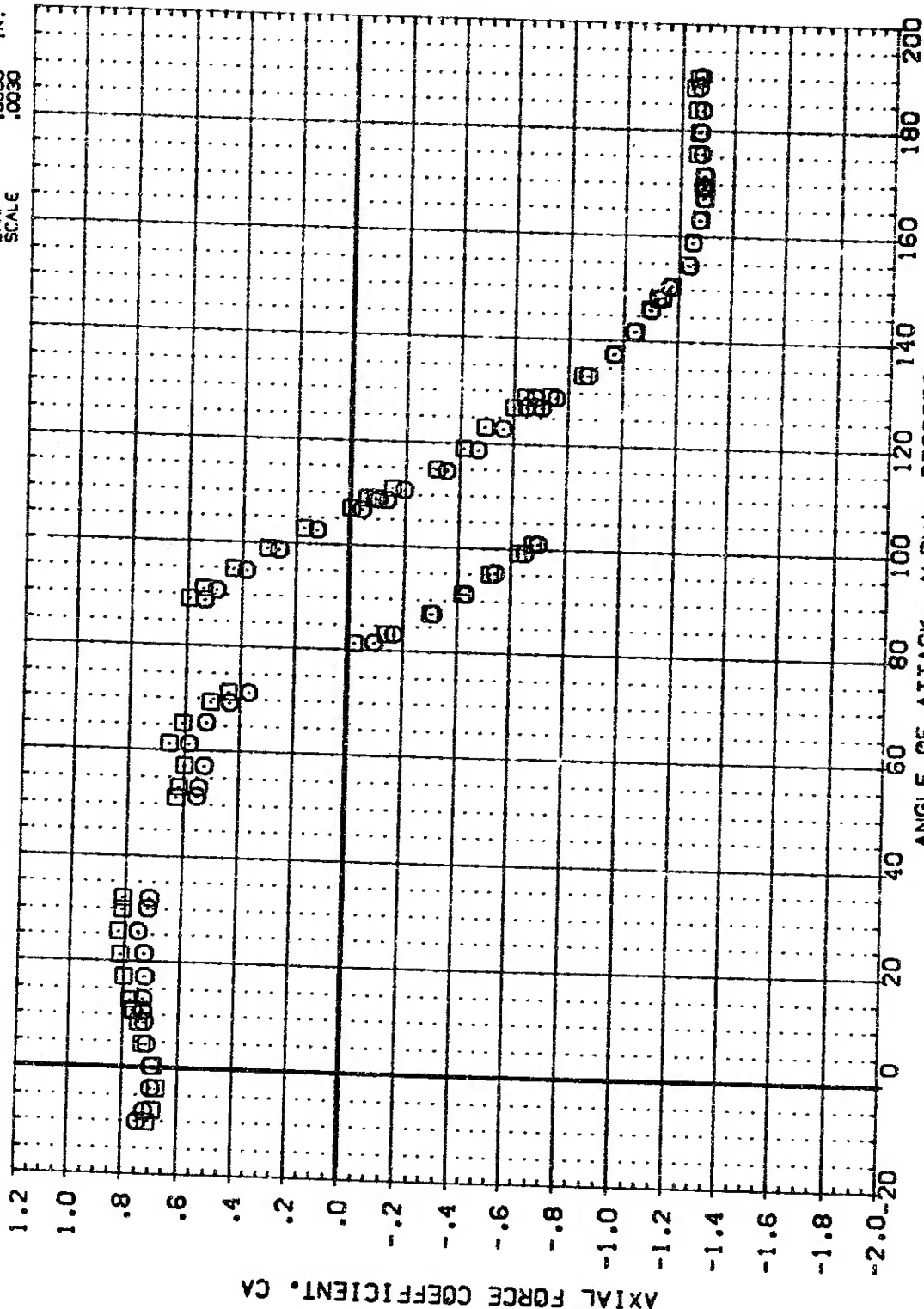
EFFECT OF ROLL POSITION ON STATIC STABILITY
(A)MACH = 1.96

DATA SET SYMBOL
(B99G01)
(B99G02)
(B99G01)
(B99G02)

CONFIGURATION DESCRIPTION
MSFC 583 (TAIF) EXTERNAL TANK T1
MSFC 583 (TAIF) EXTERNAL TANK T1
MSFC 583 (TAIF) EXTERNAL TANK T1

PHI
TAIL MOUNTED
NOSE MOUNTED
TAIL MOUNTED
NOSE MOUNTED

REFERENCE INFORMATION
SREF .7420 50. IN
LREF .9720 IN.
BREF .9720 IN.
XMRP 3.2590 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0030



ANGLE OF ATTACK, ALPHA, DEGREES

EFFECT OF ROLL POSITION ON STATIC STABILITY

(M)MACH = 1.95

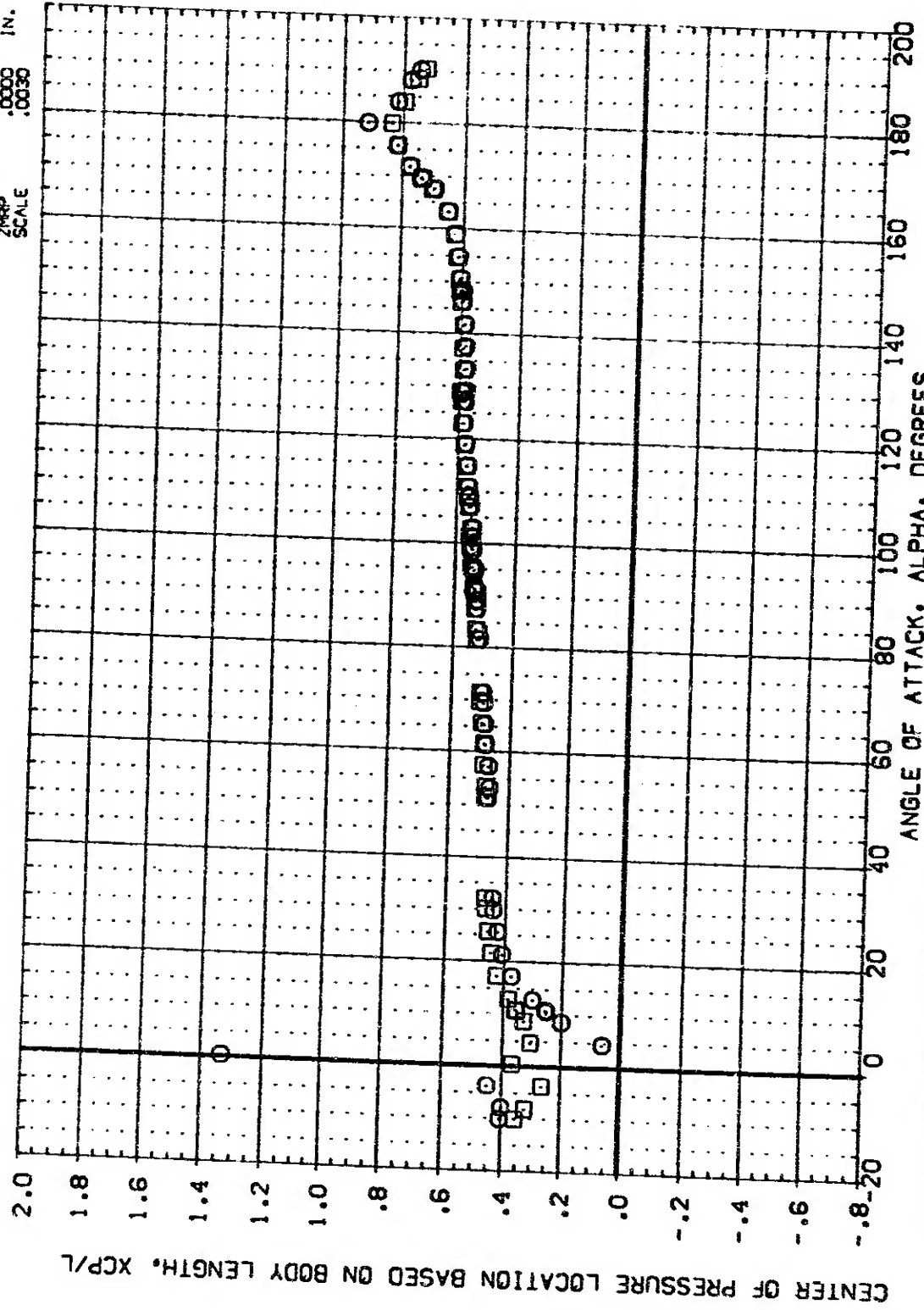
DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(B99A01) MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED .000

(B99A02) MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED .000

(B99C01) MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED 90.000

(B99C02) MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED 90.000



EFFECT OF ROLL POSITION ON STATIC STABILITY
 (A)MACH = 1.96

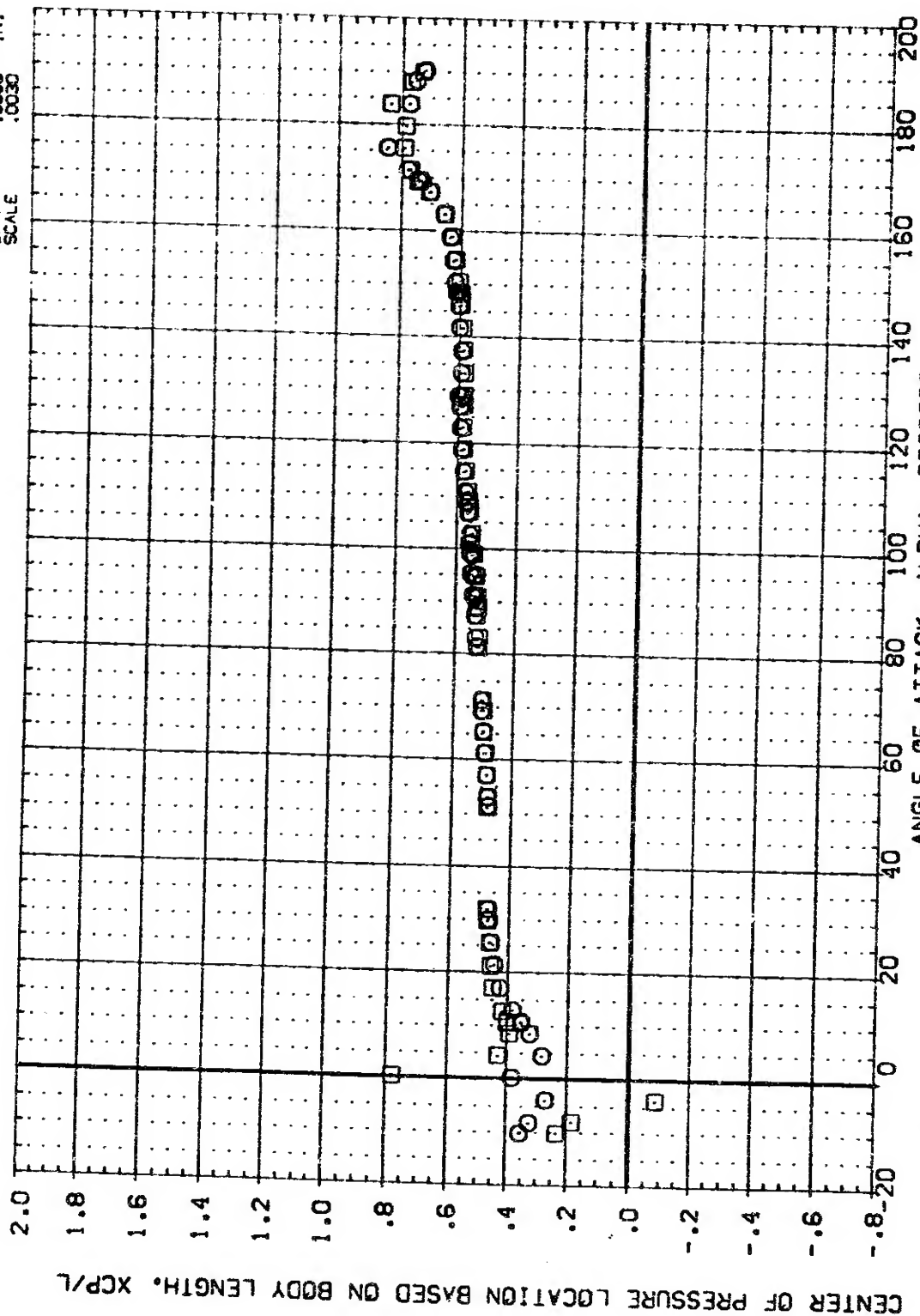
DATA SET SYMBOL. CONFIGURATION DESCRIPTION

(B99G01) MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
 (B99G02) MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED
 (B99E01) MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
 (B99E02) MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED

PHI
 270.000
 270.000
 180.000
 180.000

REFERENCE INFORMATION

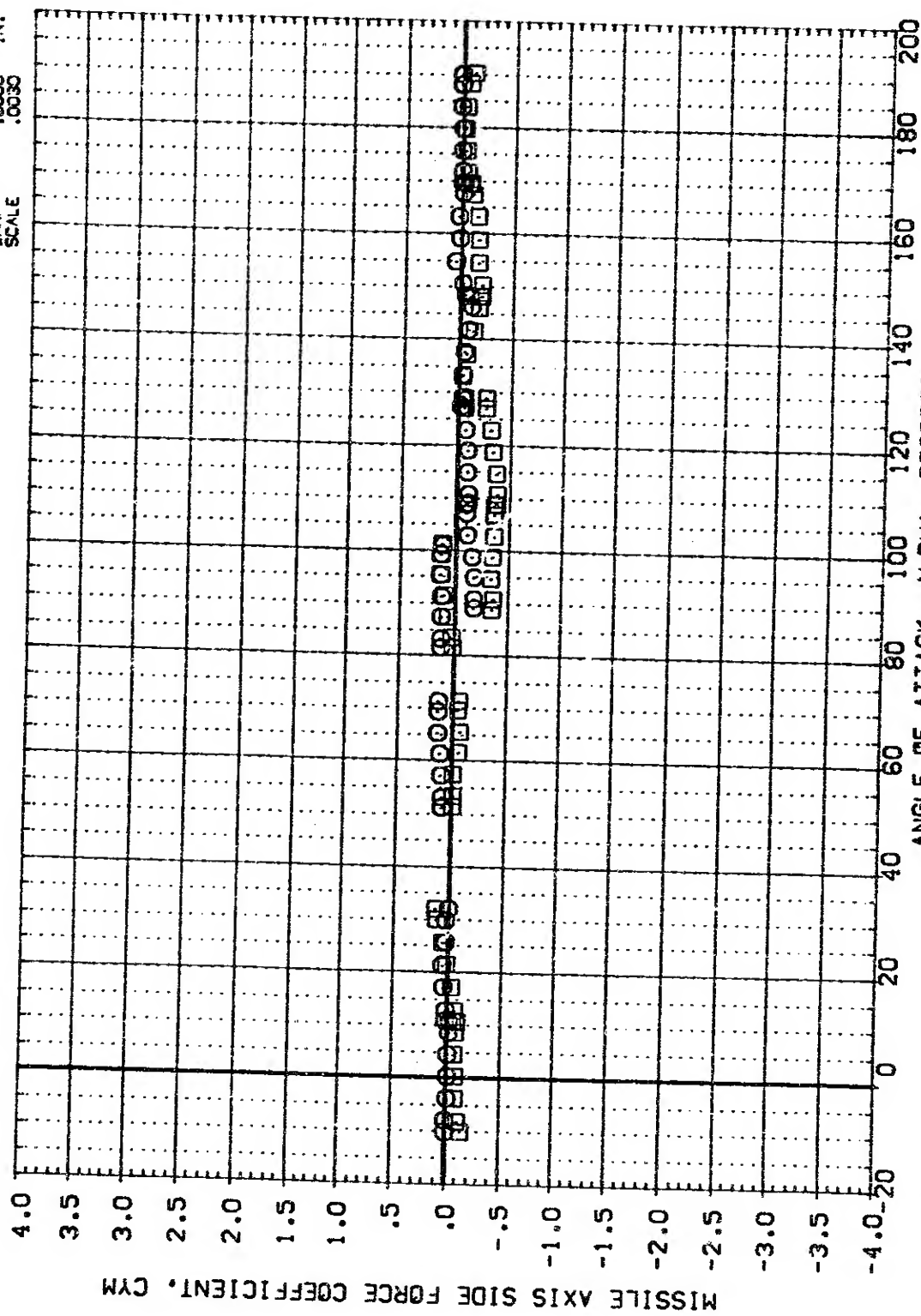
SREF .7420 SQ. IN
 LREF .9720 IN.
 BREF .9720 IN.
 XMRP 3.2590 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 1.95

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(B99A01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 50. IN
(B99A02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	YREF .5720 IN.
(B99C01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	BREF .5720 IN.
(B99C02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	XMRP 3.2590 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



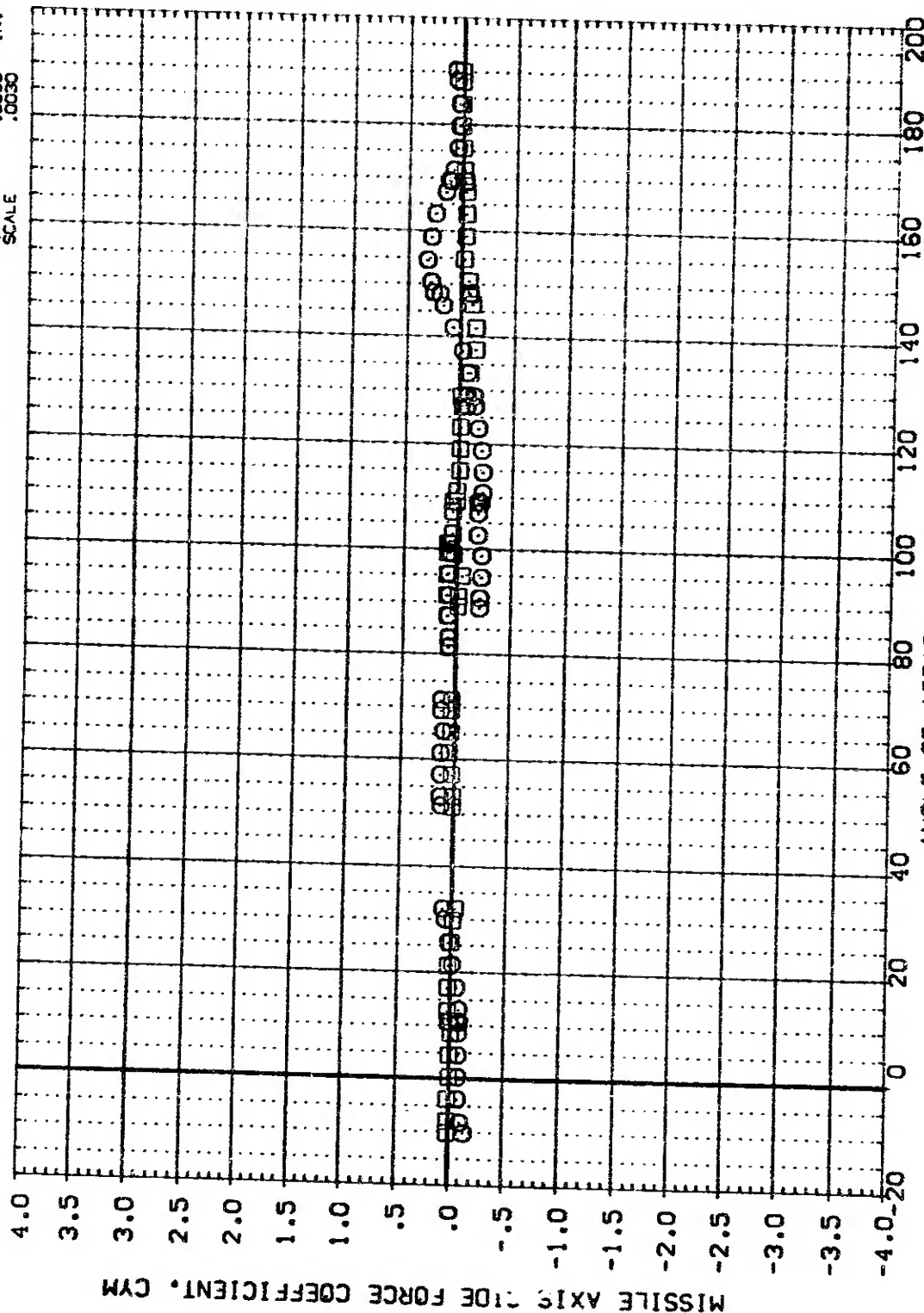
EFFECT OF ROLL POSITION ON STATIC STABILITY
(A)MACH = 1.96

DATA SET SYMBOL
 (899G01)
 (899G02)
 (899E01)
 (899E02)

CONFIGURATION DESCRIPTION
 MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED

PHI
 270.000
 270.000
 180.000
 180.000

REFERENCE INFORMATION
 SREF .7420 SQ IN
 LREF .9720 IN
 BREF .9720 IN
 XMRP 3.2390 IN
 YMRP .0000 IN
 ZMRP .0000 IN
 SCALE .0030

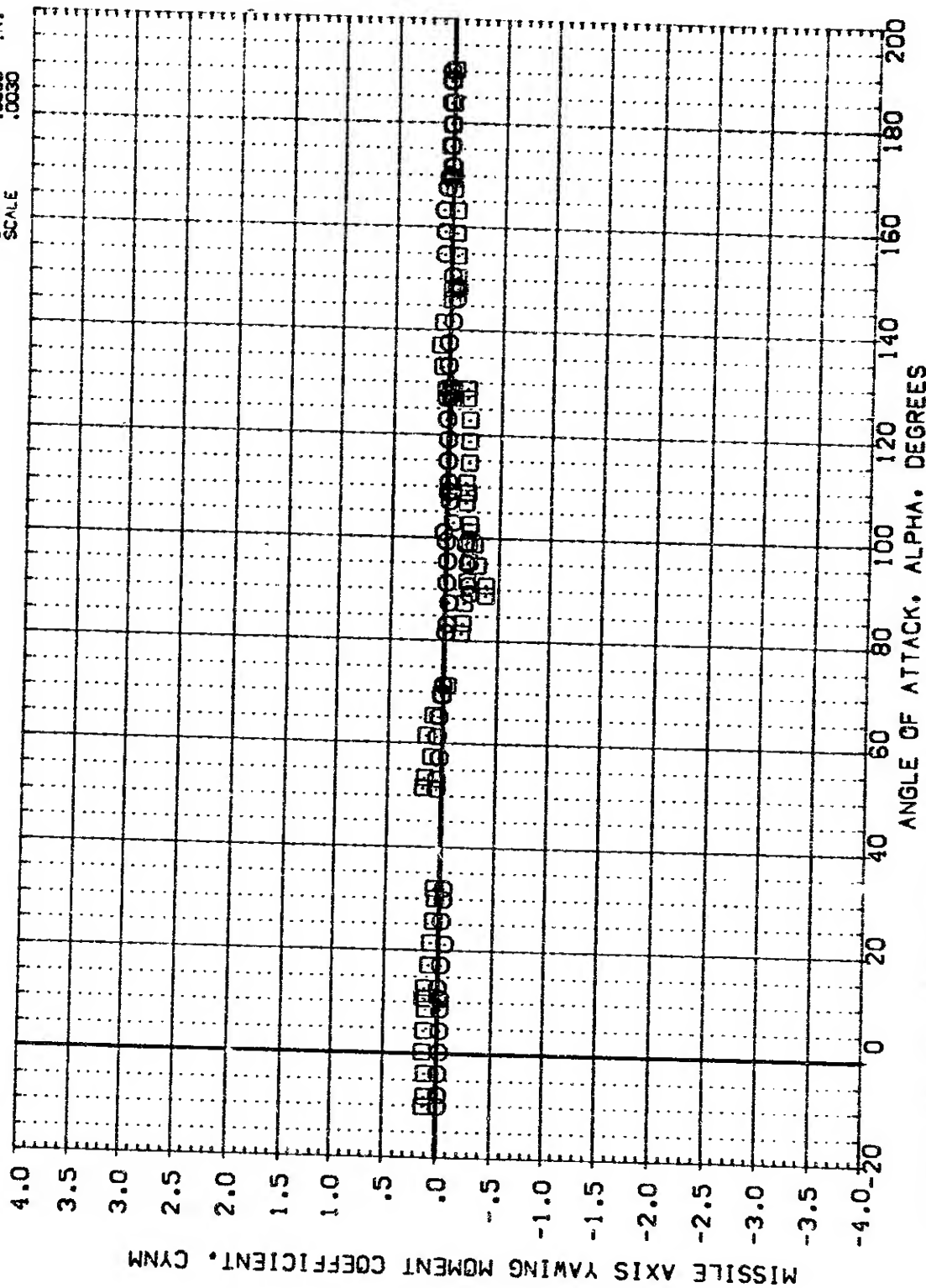


EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 1.95

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(B99A01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 50. IN
(B99A02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .9720 IN.
(B99C01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	BREF .9720 IN.
(B99C02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	AMRP 3.2590 IN.
			VMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PH

(B99G01) MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED 270.000

(B99G02) MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED 270.000

(B99G01) MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED 180.000

(B99G02) MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED 180.000

REFERENCE INFORMATION

SREF .7420 SQ. IN

LREF .9720 IN.

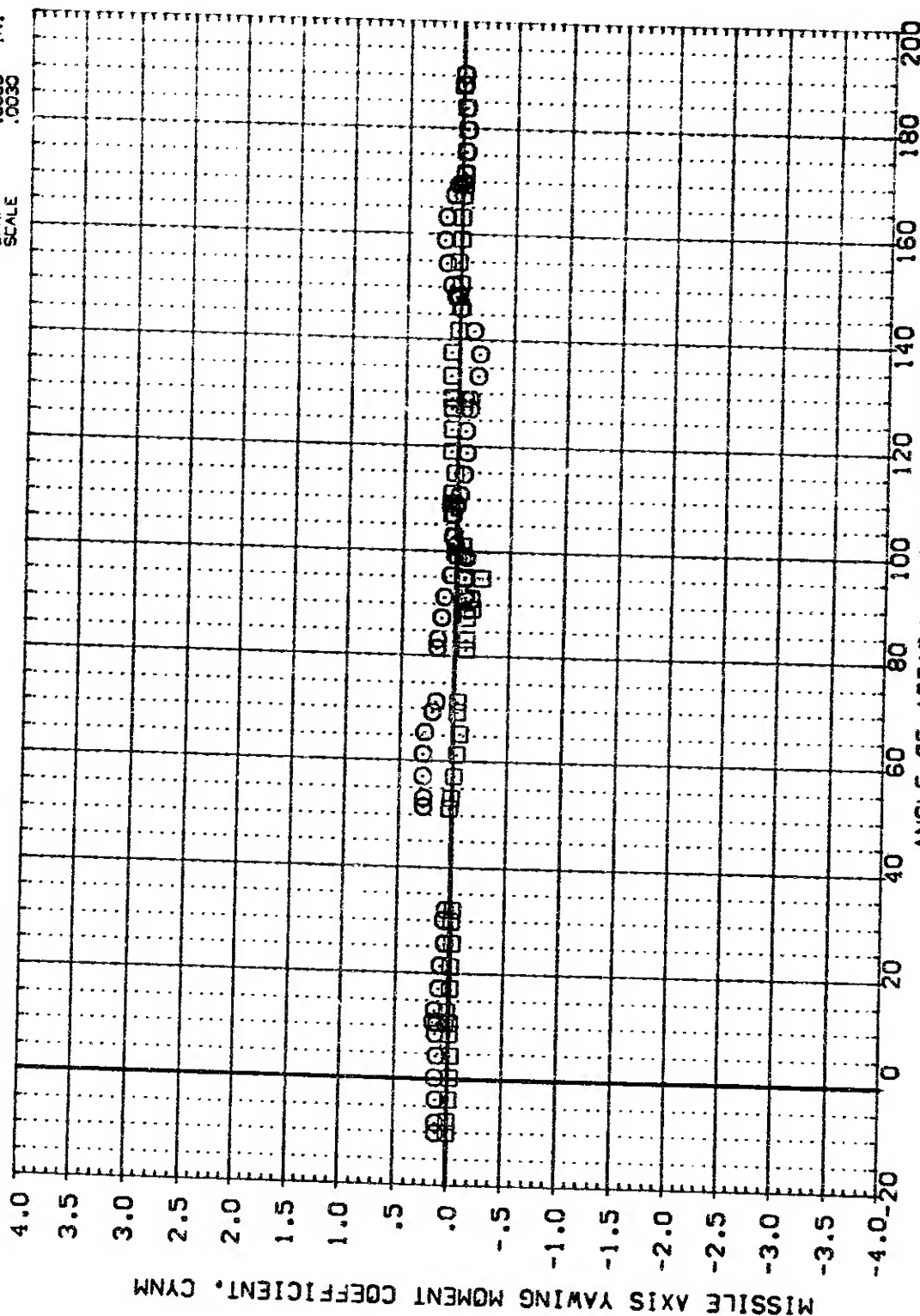
BREF .9720 IN.

XMRP 3.2550 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

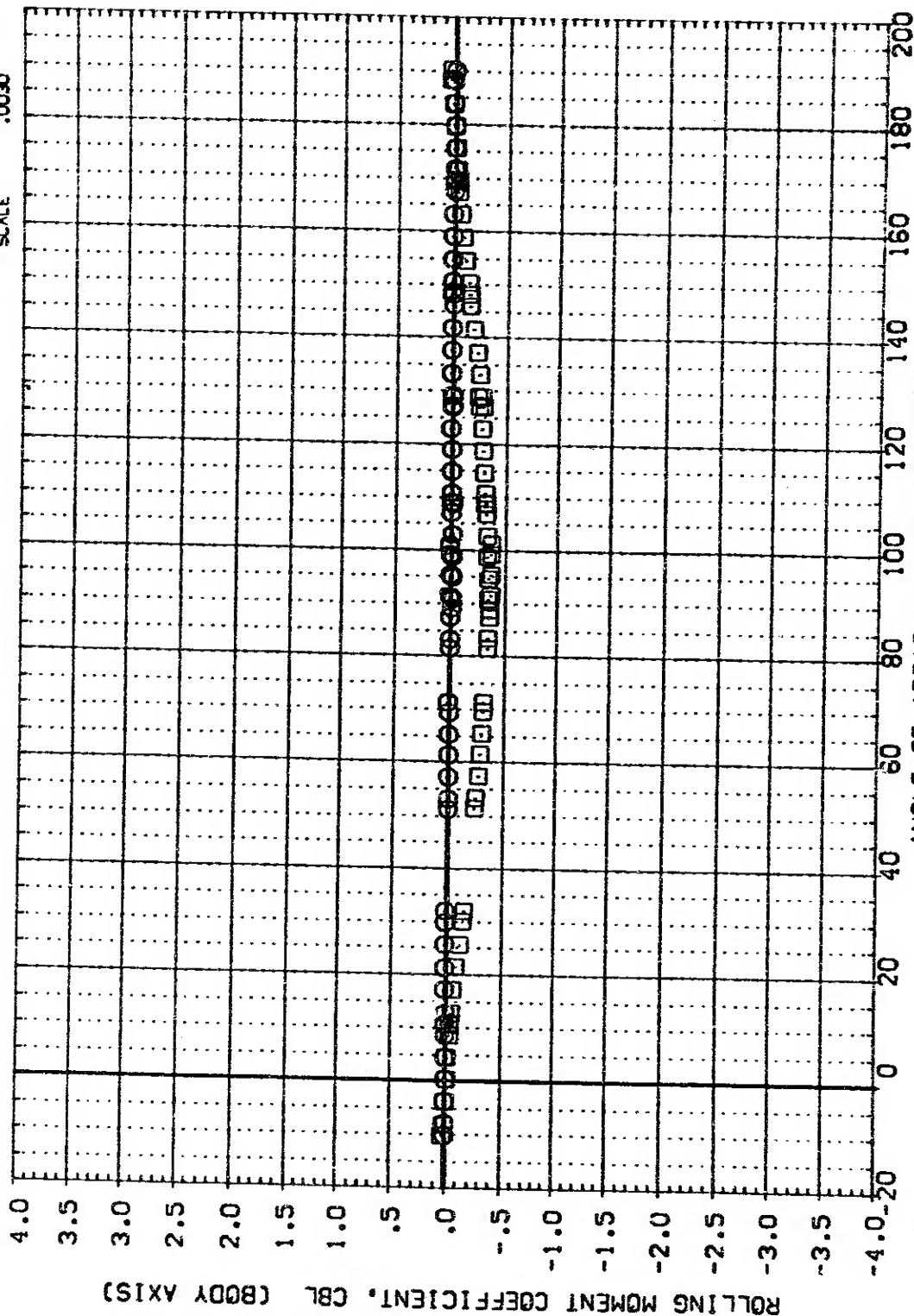
SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 1.95

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(B99A01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 50. IN
(B99A02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .5720 IN.
(B99C01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	BREF .5720 IN.
(B99C02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	XMRP 3.2590 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(M)MACH = 1.96

DATA SET SYMBOL

(899G01)
(899G02)
(899G03)
(899G04)

CONFIGURATION DESCRIPTION

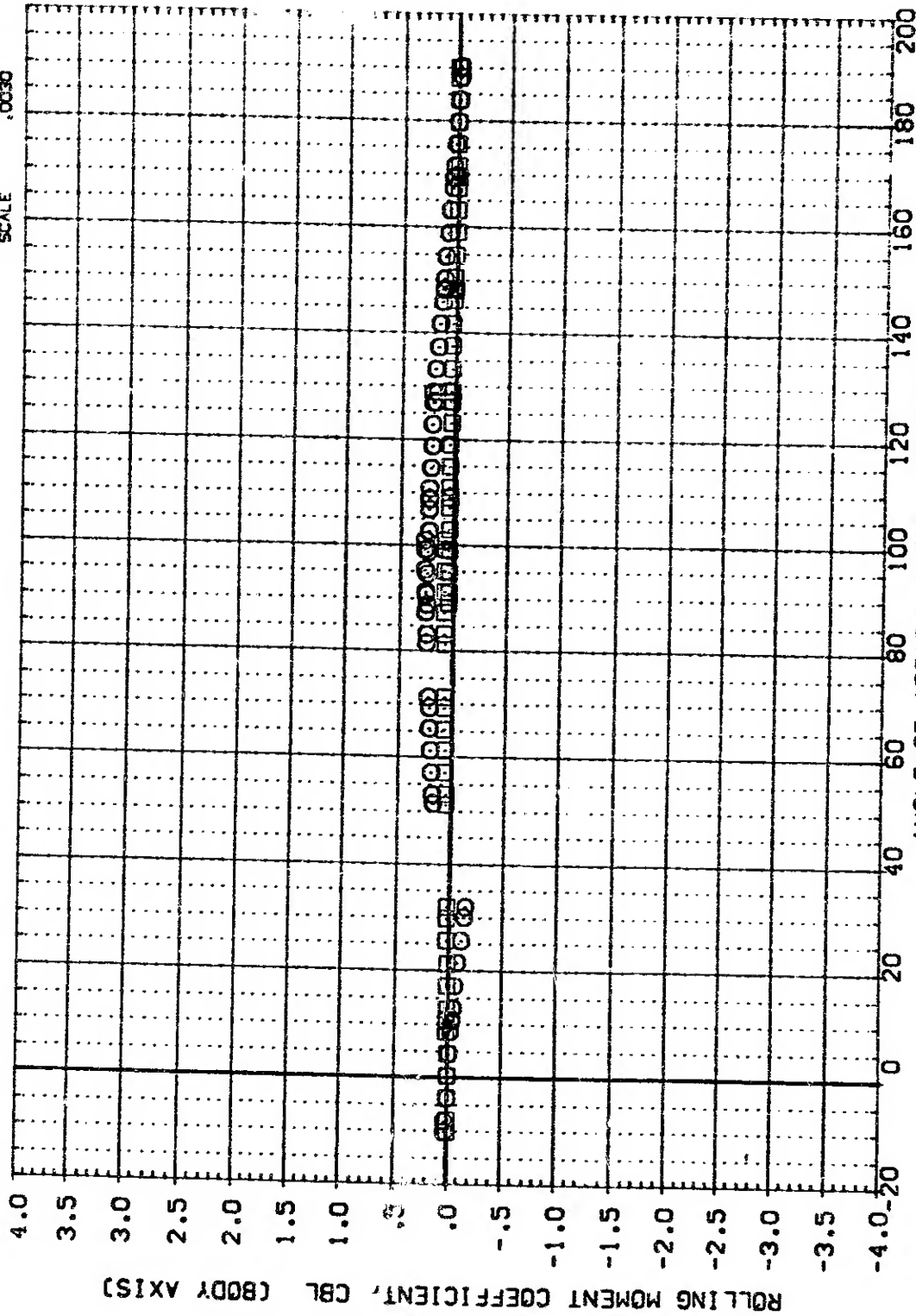
MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED

PHI

270.000
270.000
180.000
180.000

REFERENCE INFORMATION

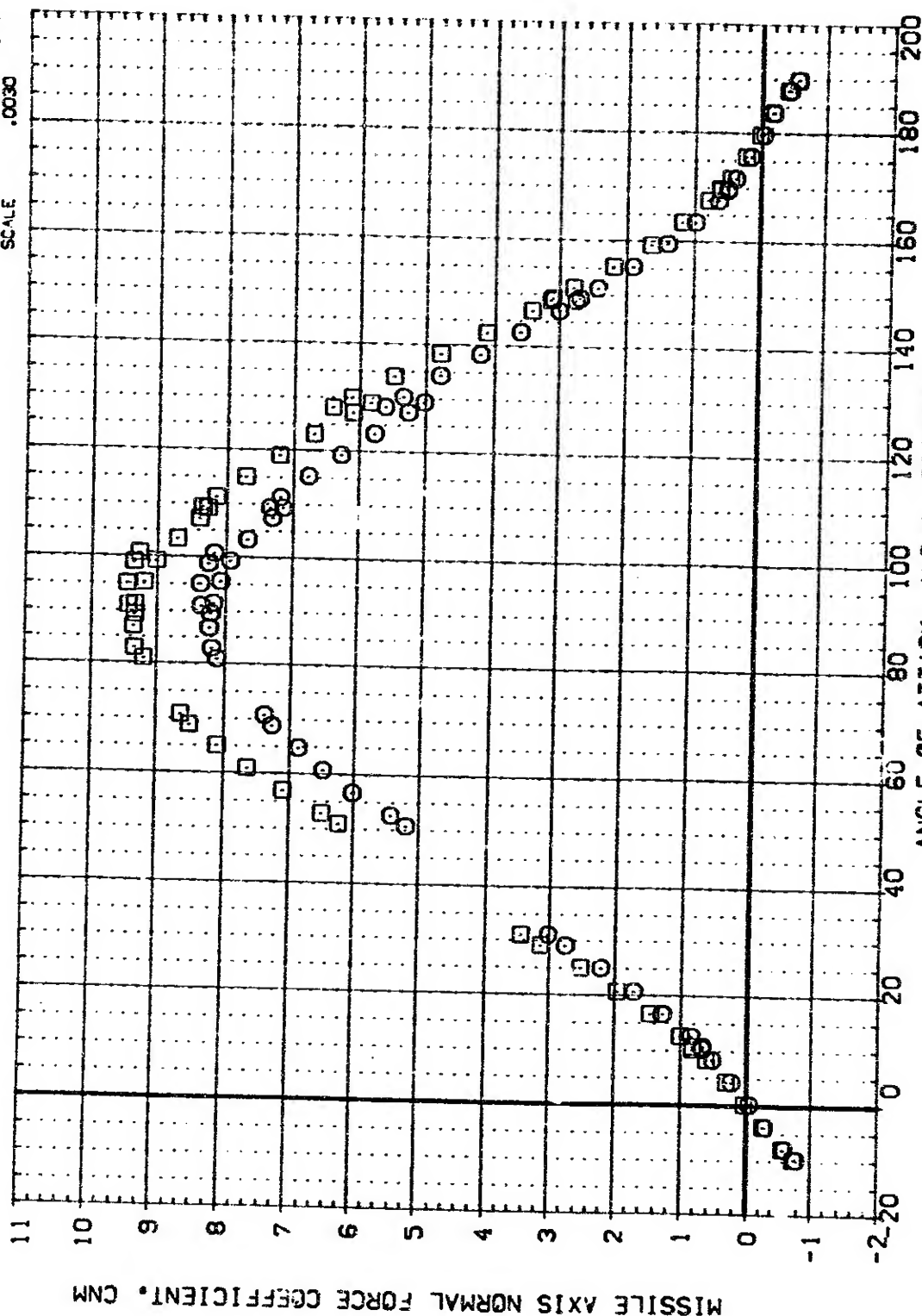
SREF 7420 SQ. IN
LREF 9720 IN.
BREF 9720 IN.
XMRP 3.2580 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 1.95

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(C99A01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF 7420 50 IN
(C99A02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF 9720 IN
(C99C01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	BREF 9720 IN
(C99C02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	AMRP 3.2580 IN
			YMRP .0000 IN
			ZMRP .0000 IN
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

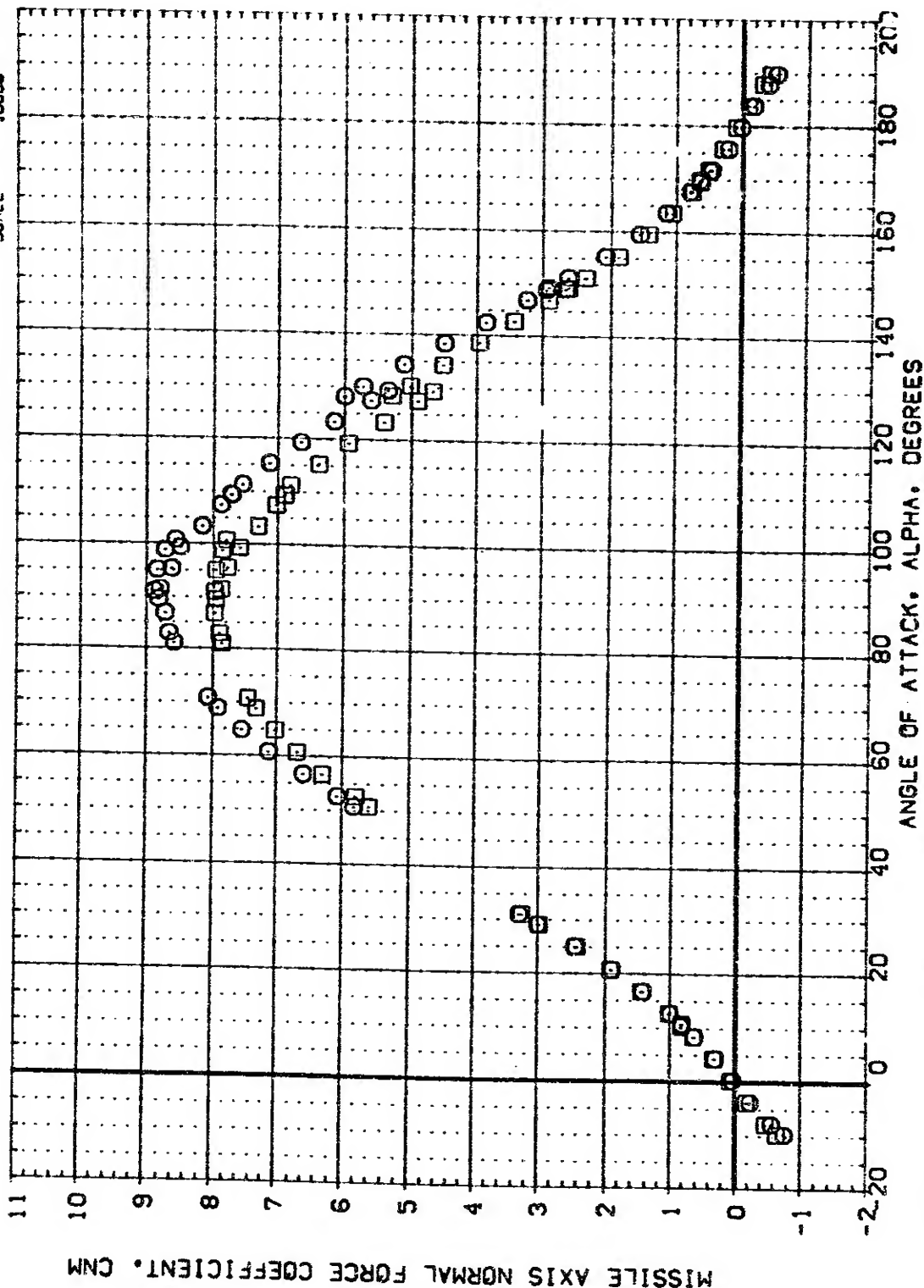
(A)MACH = 3.48

DATA SET SYMBOL: (C99001) (C99002) (C99001) (C99002)

CONFIGURATION DESCRIPTION: MSFC 583 (TAIF) EXTERNAL TANK T1; MSFC 583 (TAIF) EXTERNAL TANK T1; MSFC 583 (TAIF) EXTERNAL TANK T1; MSFC 583 (TAIF) EXTERNAL TANK T1

PHI: 270.000 270.000 180.000 180.000

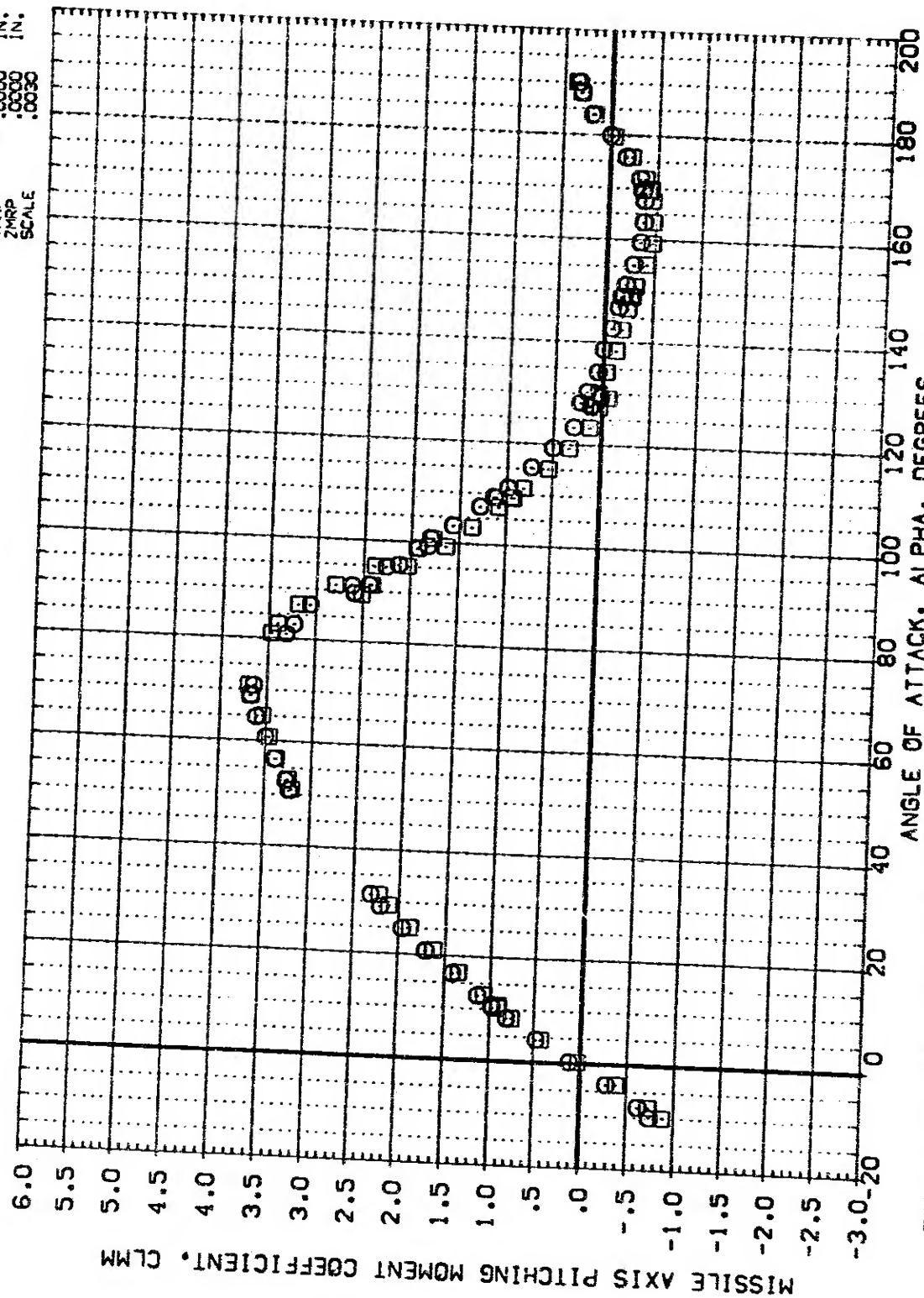
REFERENCE INFORMATION: SREF .7420 50. IN; LREF .9720 IN.; BREF .9720 IN.; XMRP 3.2597 IN.; YMRP .0000 IN.; ZMRP .0000 IN.; SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(C99A01)	MSFC 583 (TAIF) EXTERNAL TANK TI: TAIL MOUNTED	.000	SREF .7420 50. IN
(C99A02)	MSFC 583 (TAIF) EXTERNAL TANK TI: NOSE MOUNTED	.000	LREF .9720 IN.
(C99C01)	MSFC 583 (TAIF) EXTERNAL TANK TI: TAIL MOUNTED	90.000	BREF .9720 IN.
(C99C02)	MSFC 583 (TAIF) EXTERNAL TANK TI: NOSE MOUNTED	90.000	XMRP 3.2580 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(M)MACH = 3.48

DATA SET SYMBOL

[C99601]
 [C99602]
 [C99601]
 [C99602]

CONFIGURATION DESCRIPTION

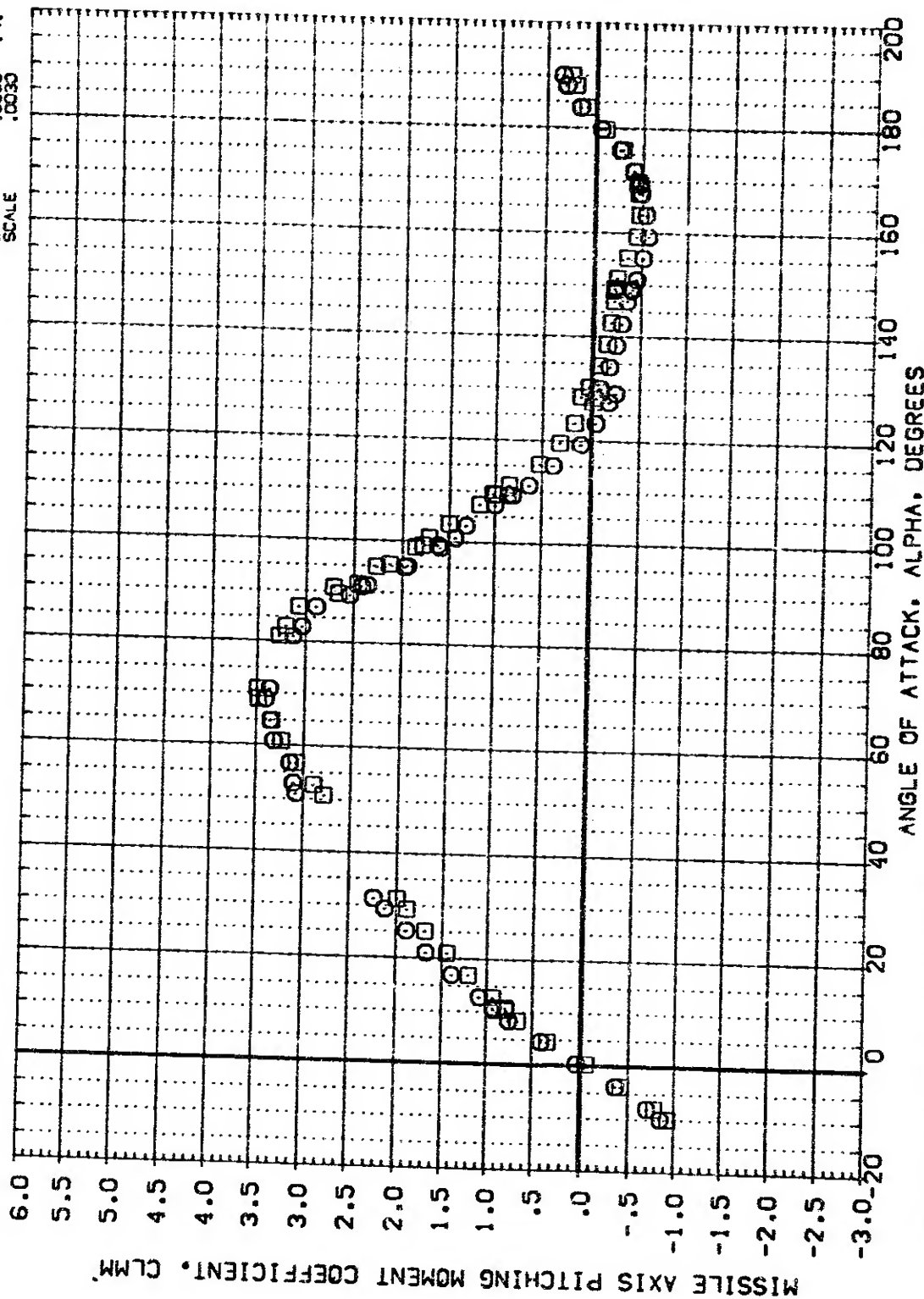
MSFC 583 (TAIF) EXTERNAL TANK
 MSFC 583 (TAIF) EXTERNAL TANK
 MSFC 583 (TAIF) EXTERNAL TANK
 MSFC 583 (TAIF) EXTERNAL TANK

PHI

270.000
 270.000
 270.000
 180.000

REFERENCE INFORMATION

SREF .7420 IN.
 LREF .9720 IN.
 BREF .9720 IN.
 XMRP 3.2500 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0030

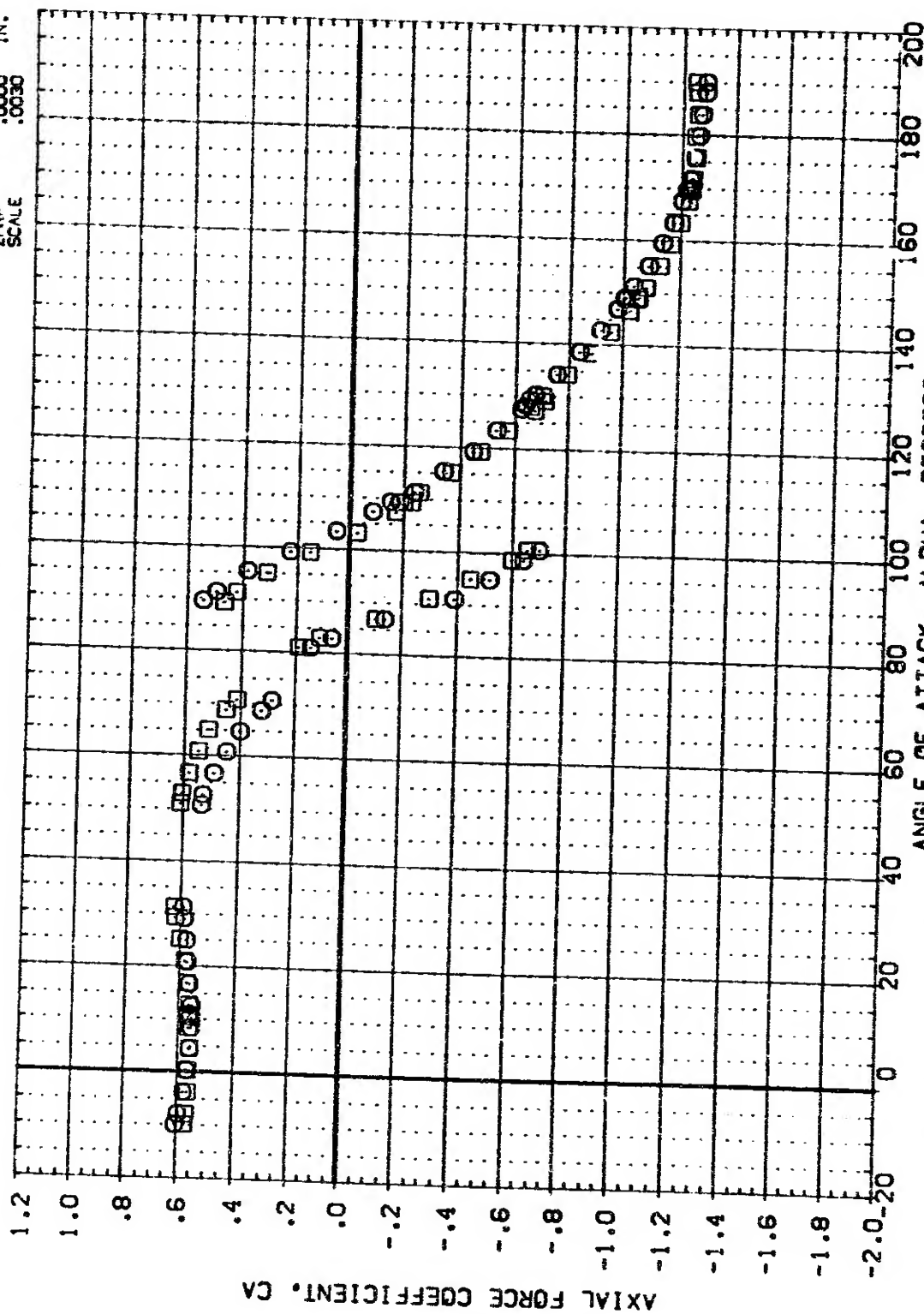


EFFECT OF ROLL POSITION ON STATIC STABILITY

(M)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(C99A01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 IN.
(C99A02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .9720 IN.
(C99C01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	BREF .9720 IN.
(C99C02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	XMRP 3.2550 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

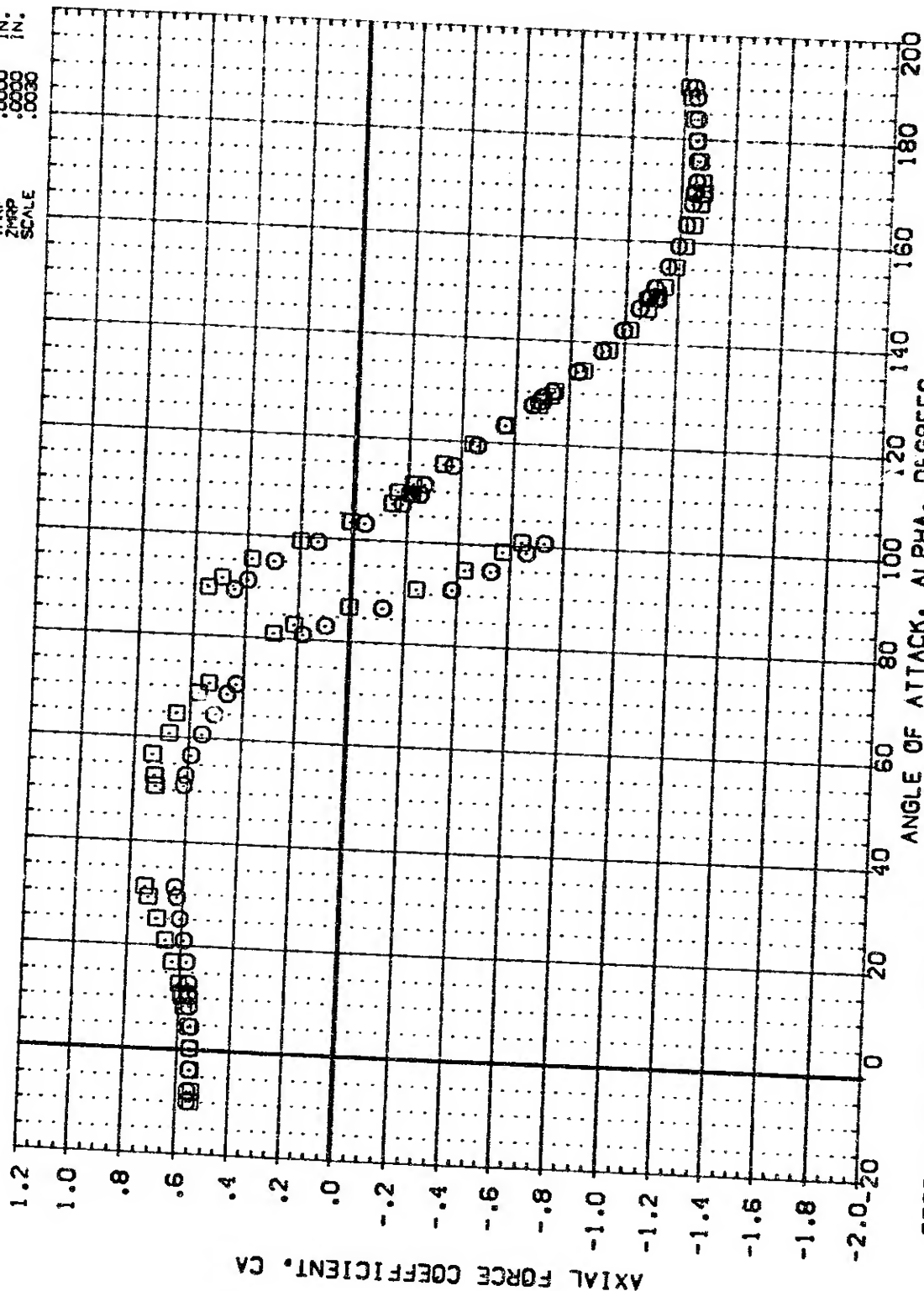
(A)MACH = 3.48

DATA SET SYMBOL
(C95001)
(C95002)
(C95001)
(C95002)

CONFIGURATION DESCRIPTION
MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED

PHI
270.000
270.000
180.000
180.000

REFERENCE INFORMATION
SREF .7420 SQ. IN.
LREF .9720 IN.
BREF .9720 IN.
XMRP 3.2580 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

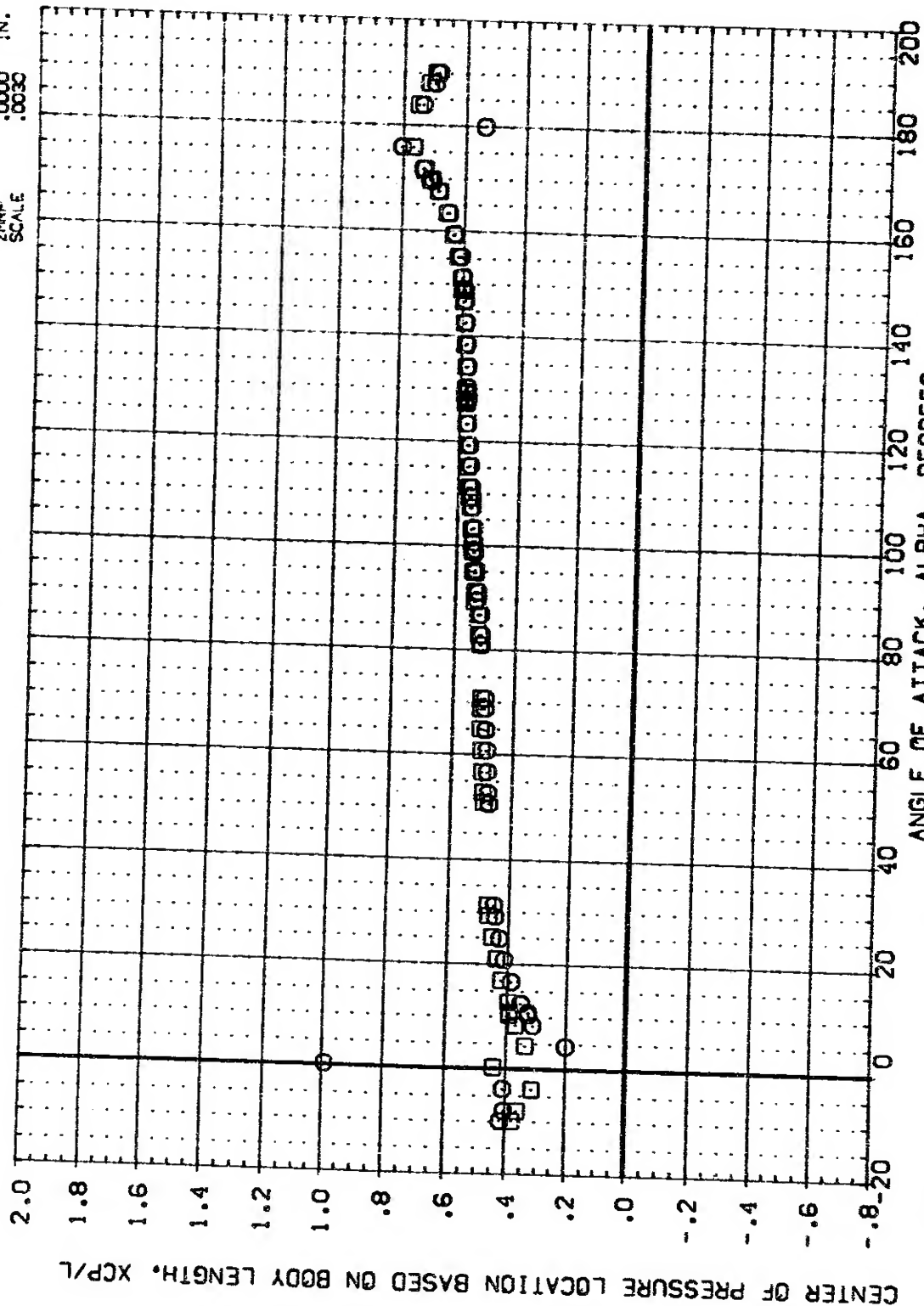
(A)MACH = 3.48

DATA SET SYMBOL: (C99A01) (C99A02) (C99C01) (C99C02)

CONFIGURATION DESCRIPTION: MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED

PHI: .000 .000 90.000 90.000

REFERENCE INFORMATION: SREF: 7420 90. IN. LREF: .5720 IN. BREF: .5720 IN. XMRP: 3.2590 IN. YMRP: .0000 IN. ZMRP: .0000 IN. SCALE: .0030



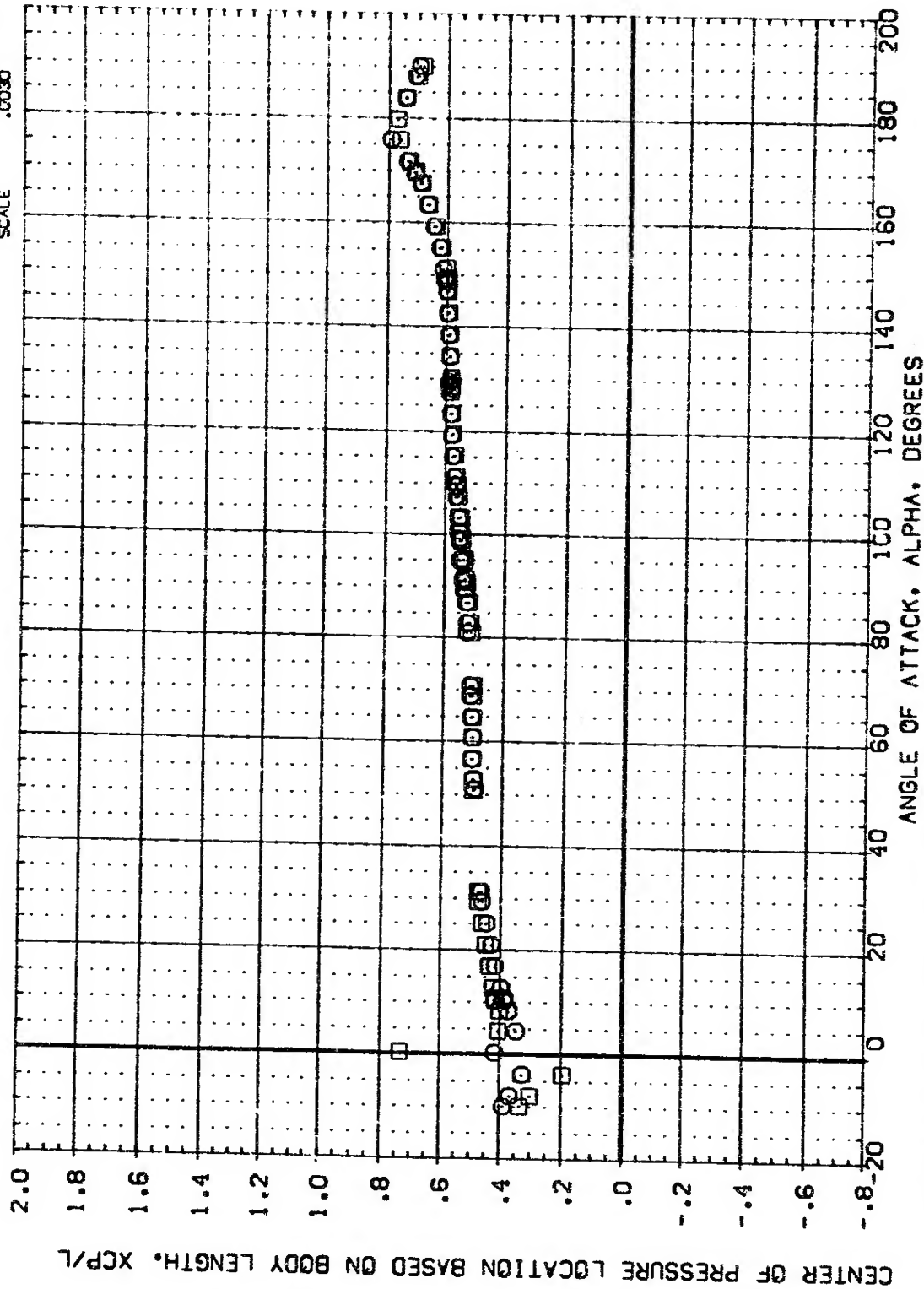
EFFECT OF ROLL POSITION ON STATIC STABILITY

(A) MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C99G01) MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
 (C99G02) MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED
 (C99E01) MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
 (C99E02) MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED

PHI
 270.000
 270.000
 180.000
 180.000

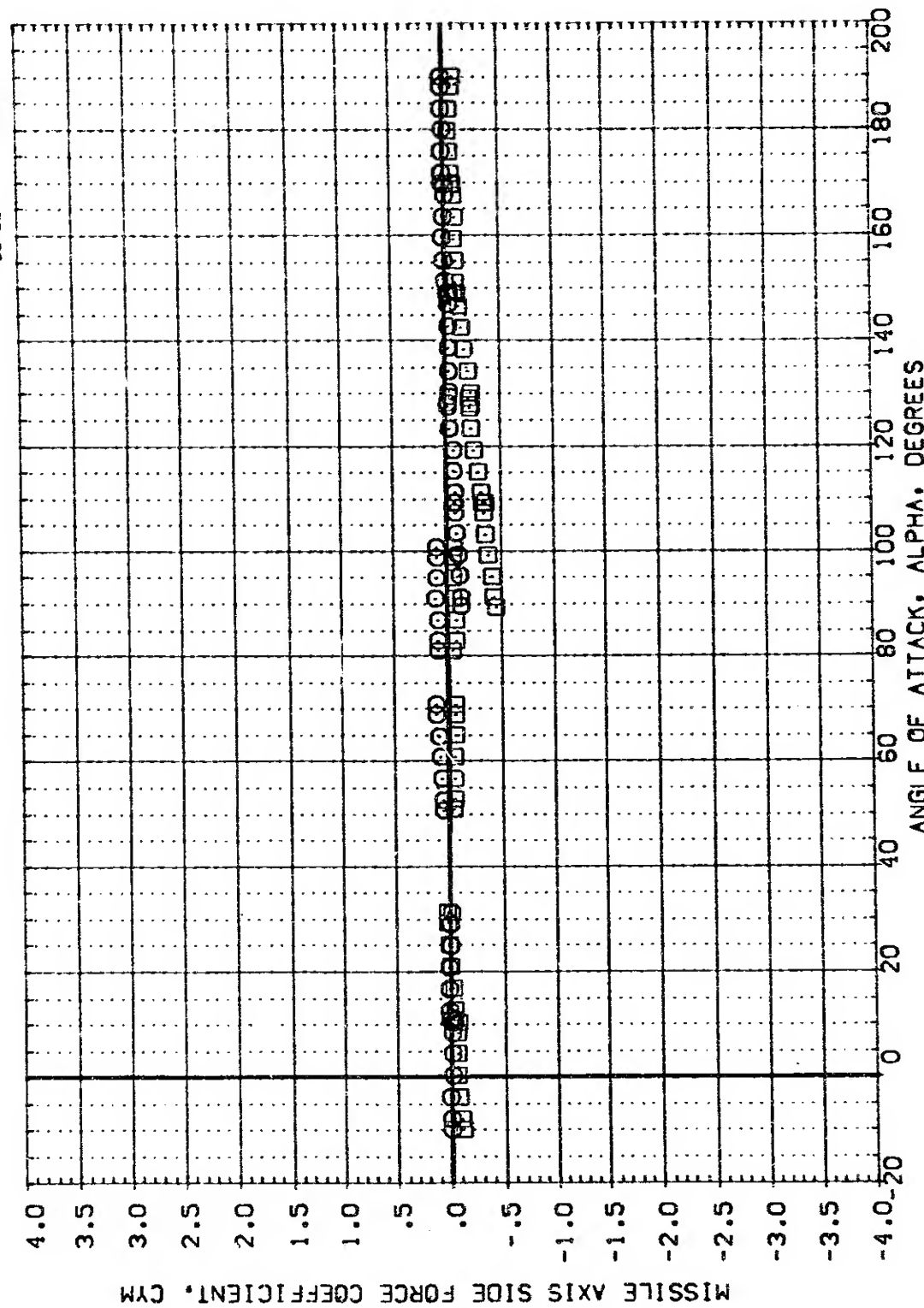
REFERENCE INFORMATION
 SREF .7420 SQ. IN
 LREF .9720 IN.
 BREF .9720 IN.
 XMRP 3.2590 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 3.48

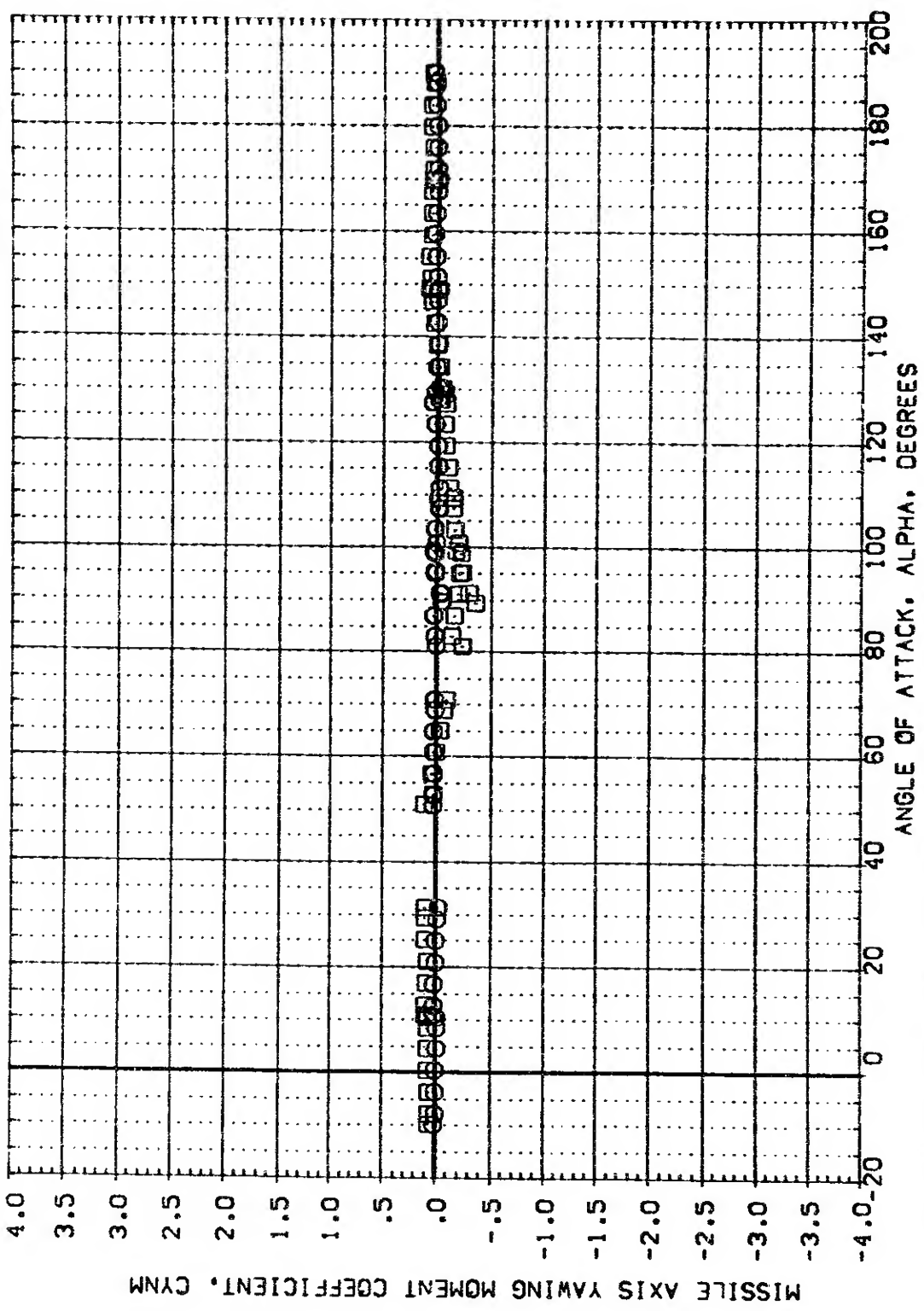
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(C99A01)	MSC 583 (TALF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 SO. IN
(C99A02)	MSC 583 (TALF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .9720 IN.
(C99C01)	MSC 583 (TALF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	BREF .9720 IN.
(C99C02)	MSC 583 (TALF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	XMRP 3.2590 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 3.48

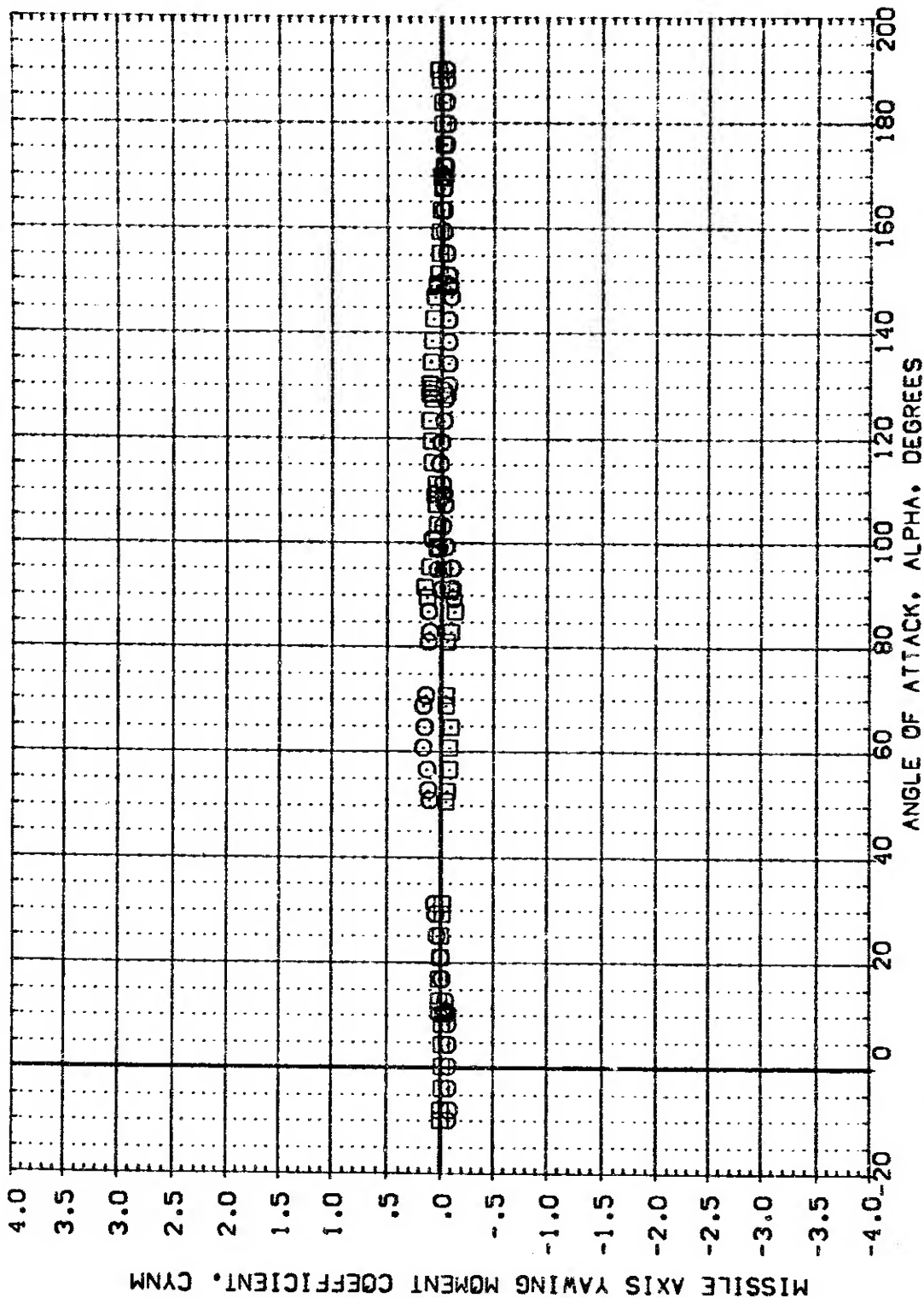
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(C99A01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 SQ. IN
(C99A02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .9720 IN.
(C99C01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	BREF .9720 IN.
(C99C02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	XMRP 3.2590 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 3.48

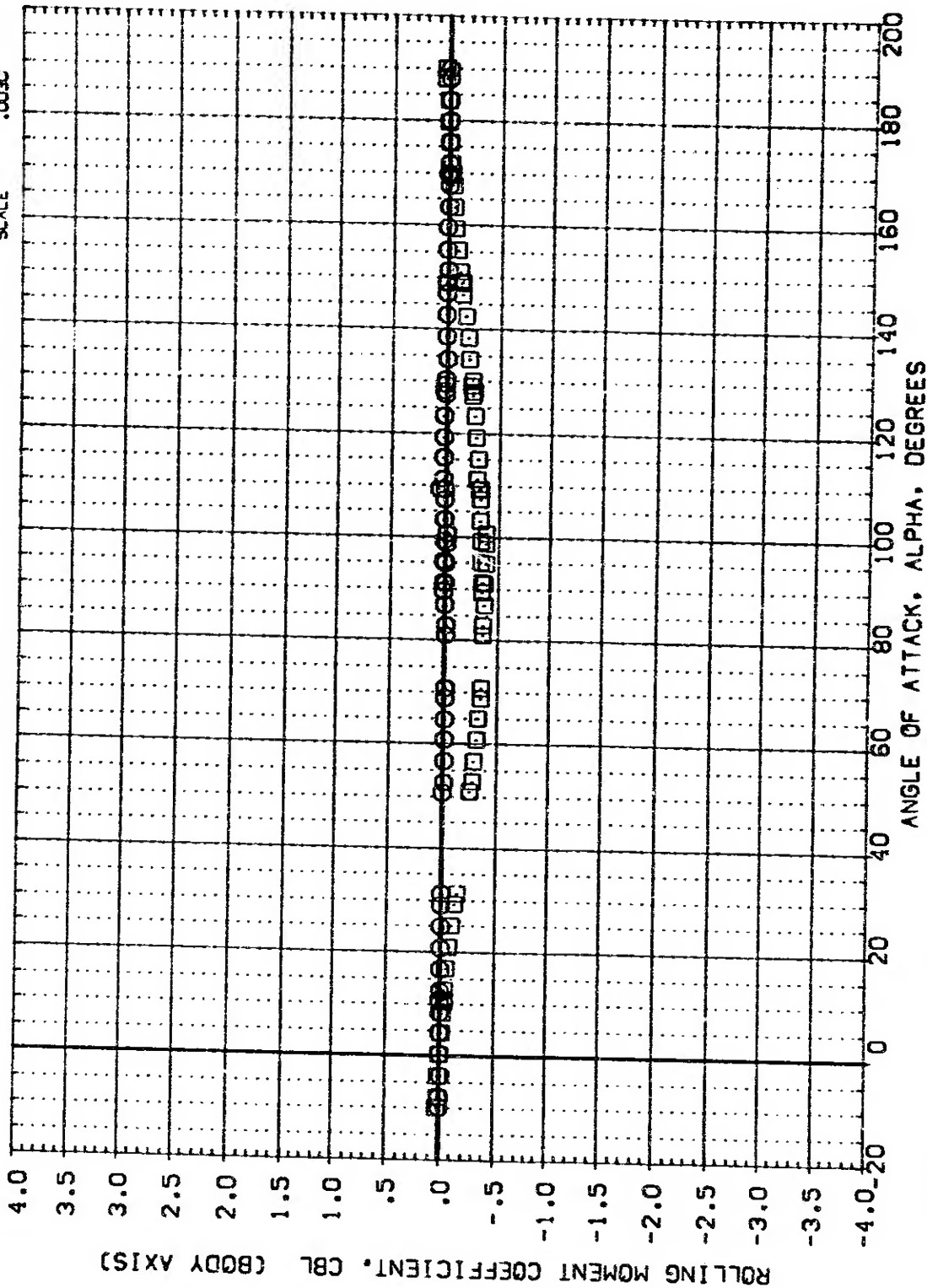
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(C99001)	MSFC 583 (TAIL) EXTERNAL TANK T1: TAIL MOUNTED	270.000	SREF .7420 SO. IN
(C99002)	MSFC 583 (TAIL) EXTERNAL TANK T1: NOSE MOUNTED	270.000	LREF .9720 IN.
(C99001)	MSFC 583 (TAIL) EXTERNAL TANK T1: TAIL MOUNTED	180.000	BREF .9720 IN.
(C99002)	MSFC 583 (TAIL) EXTERNAL TANK T1: NOSE MOUNTED	180.000	XMRP 3.2590 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(C99A01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 50. IN
(C99A02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .9720 IN.
(C99C01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	BREF .9720 IN.
(C99C02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	XMRP 3.2590 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030

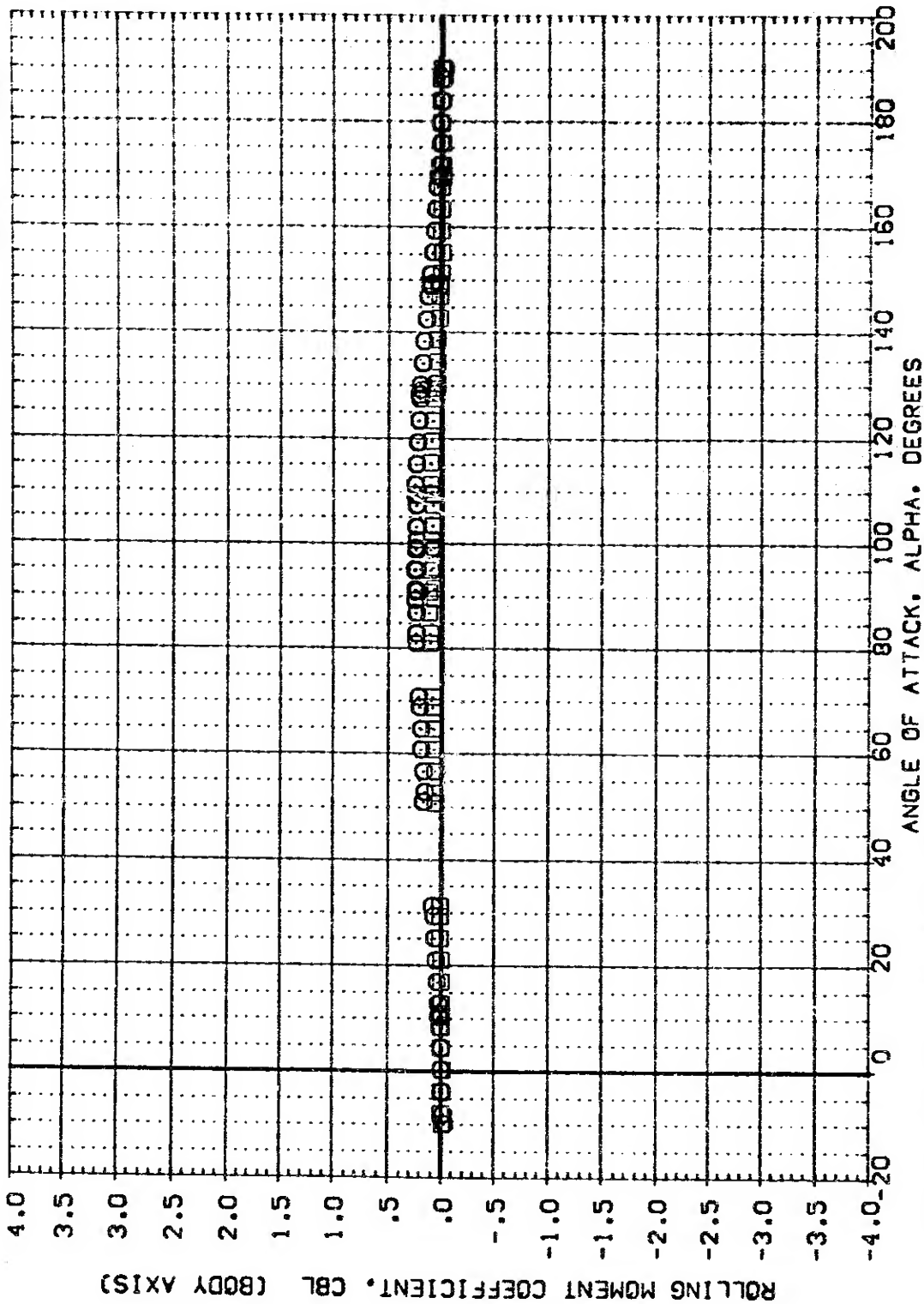


EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(C99G01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	270.000	SREF	.7420	50. IN
(C99G02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	270.000	LREF	.9720	IN.
(C99E01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	180.000	BREF	.9720	IN.
(C99E02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	180.000	YMRP	3.2590	IN.
			ZMRP	.0000	IN.
			SCALE	.0030	

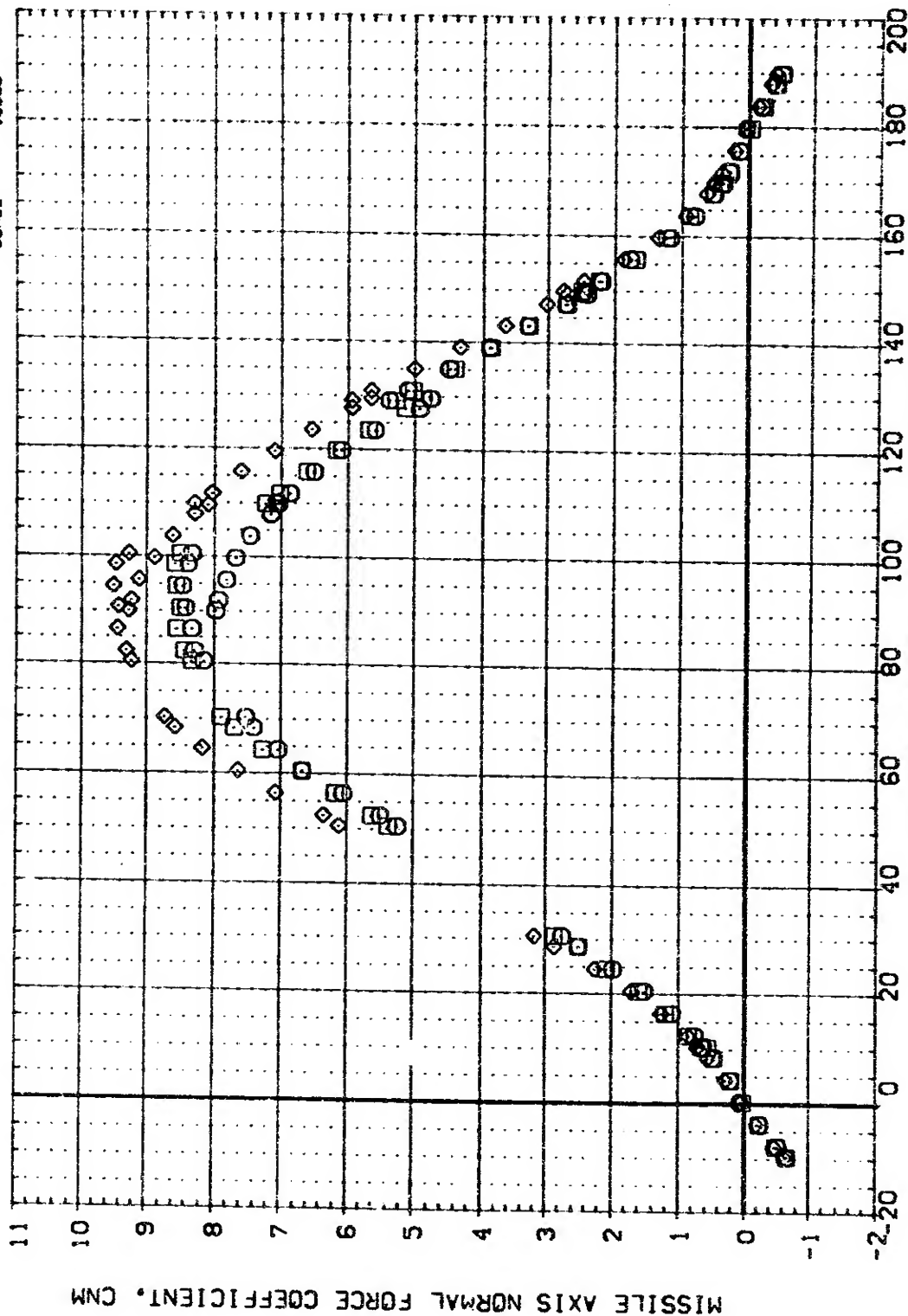


EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 3.48

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

{D99A01}	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 IN.
{D99A02}	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .9720 IN.
{A99B01}	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	45.000	BREF 3.2590 IN.
{A99B02}	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	XMRP .0000 IN.
{D99C01}	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	YMRP .0000 IN.
{D99C02}	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	ZMRP .0000 IN.
			SCALE .0030

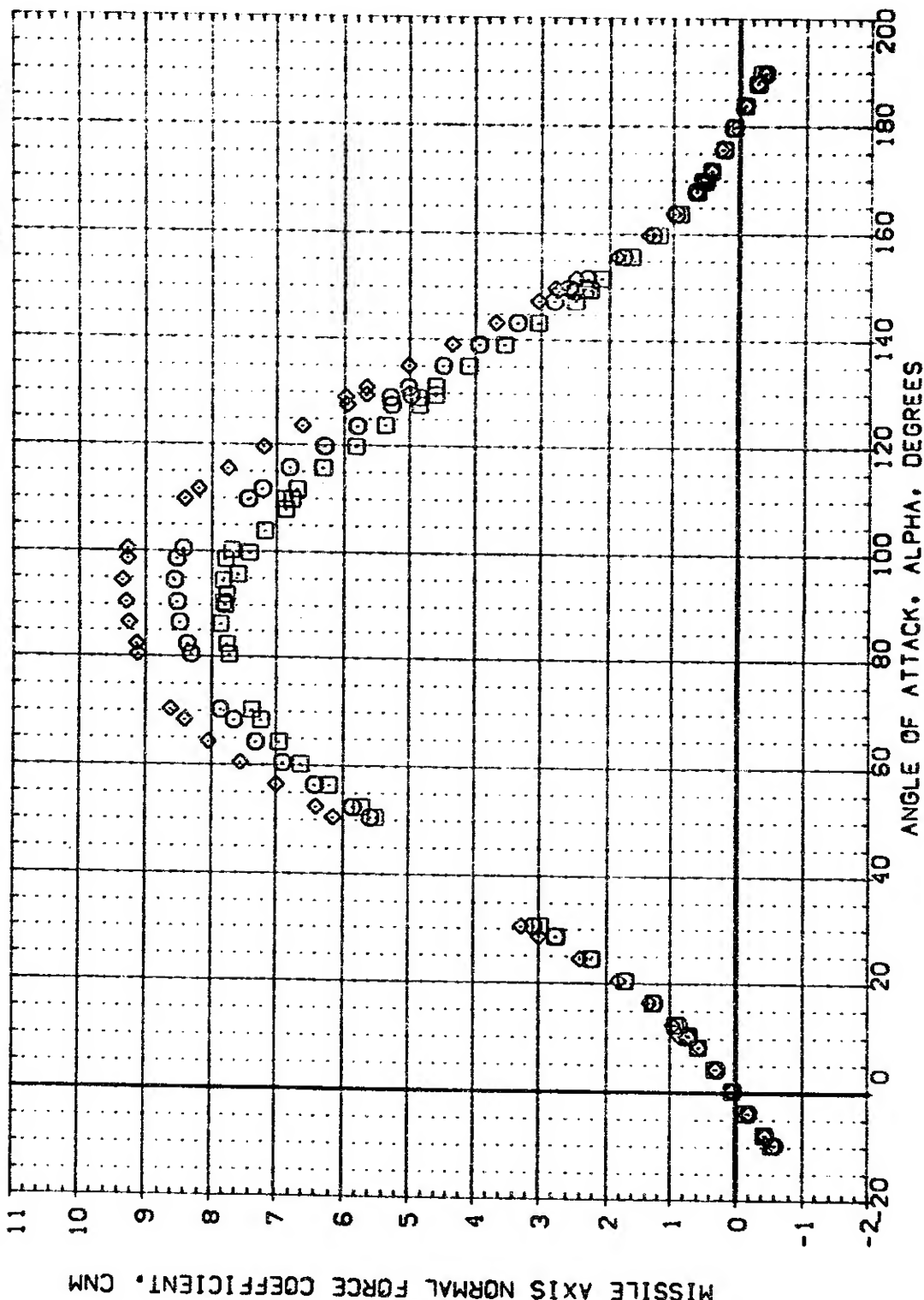


EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

DATA SET SYMBOL:
 MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED 125.000
 MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED 125.000
 MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED 180.000
 MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED 180.000
 MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED 225.000
 MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED 225.000

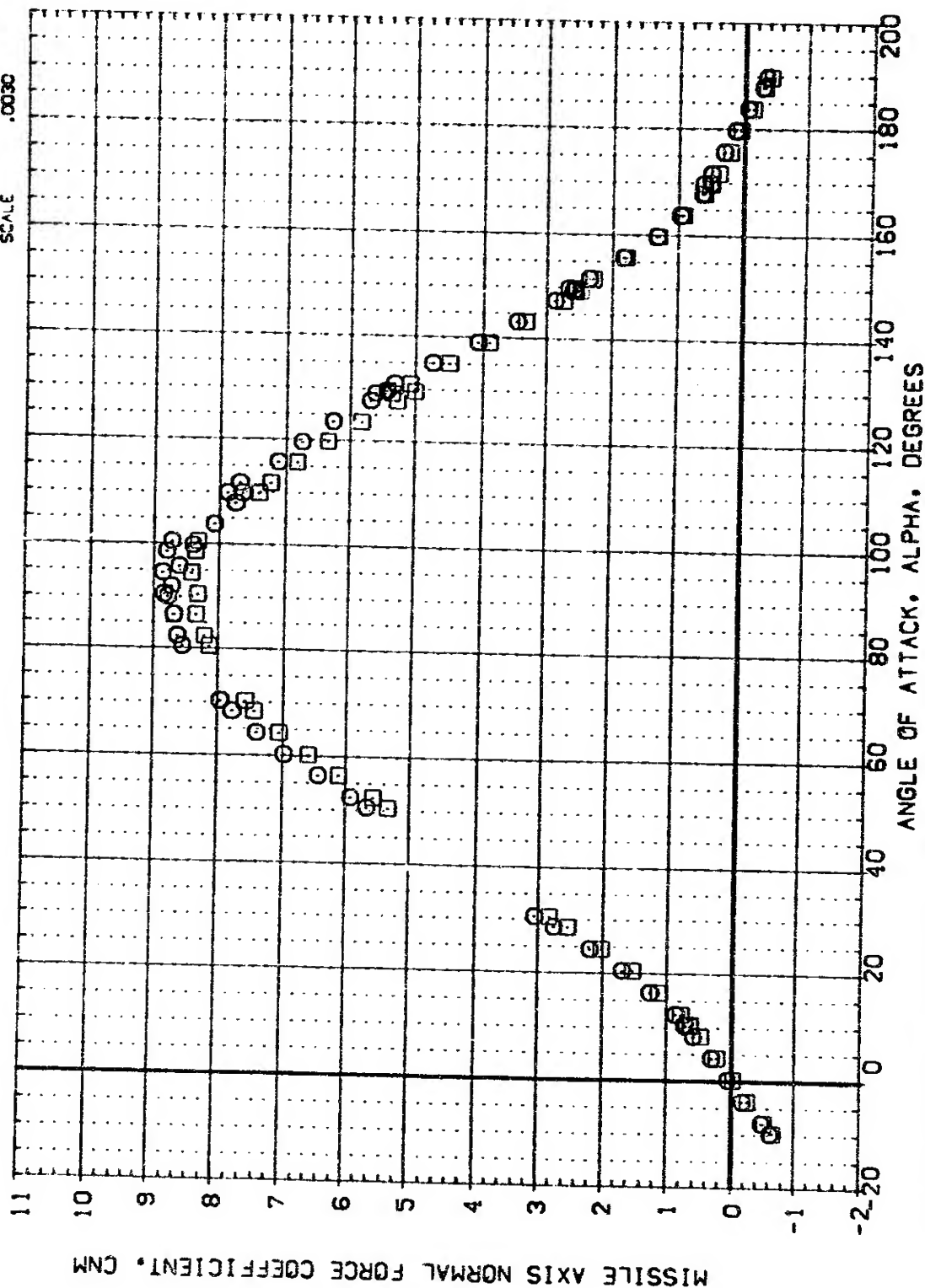
REFERENCE INFORMATION:
 SREF 7420 50. IN
 LREF 5720 12. IN
 BREF 5720 12. IN
 XMRP 3.7590 12. IN
 YMRP 0.0000 12. IN
 ZMRP 0.0000 12. IN
 SCALE 0.0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

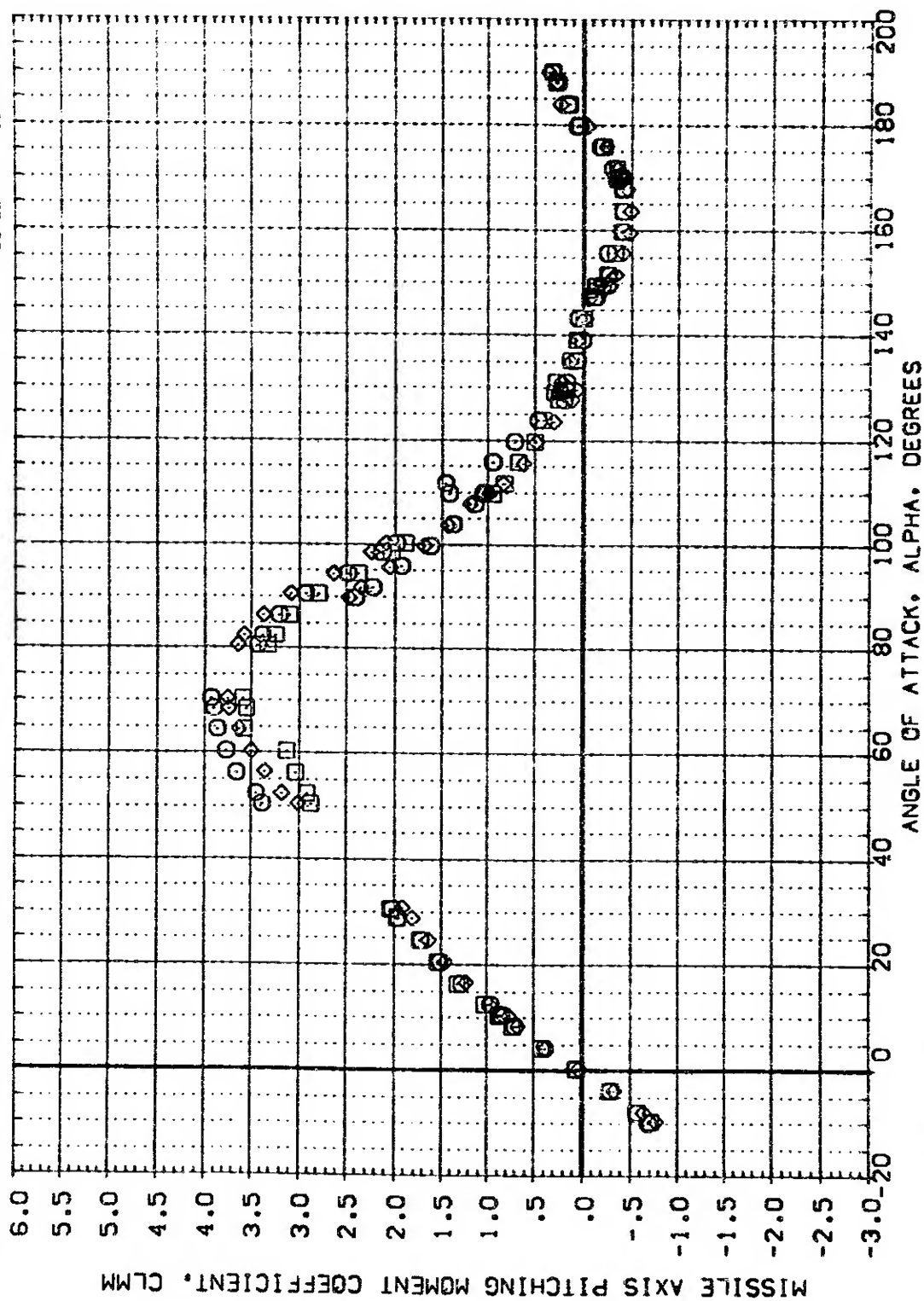
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(D95-01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	270.000	SREF .7420 50. IN
(D95-02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	270.000	LREF .9720 IN.
(A99-01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	315.000	BREF .9720 IN.
(A99-02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	315.000	XMRP 3.2580 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

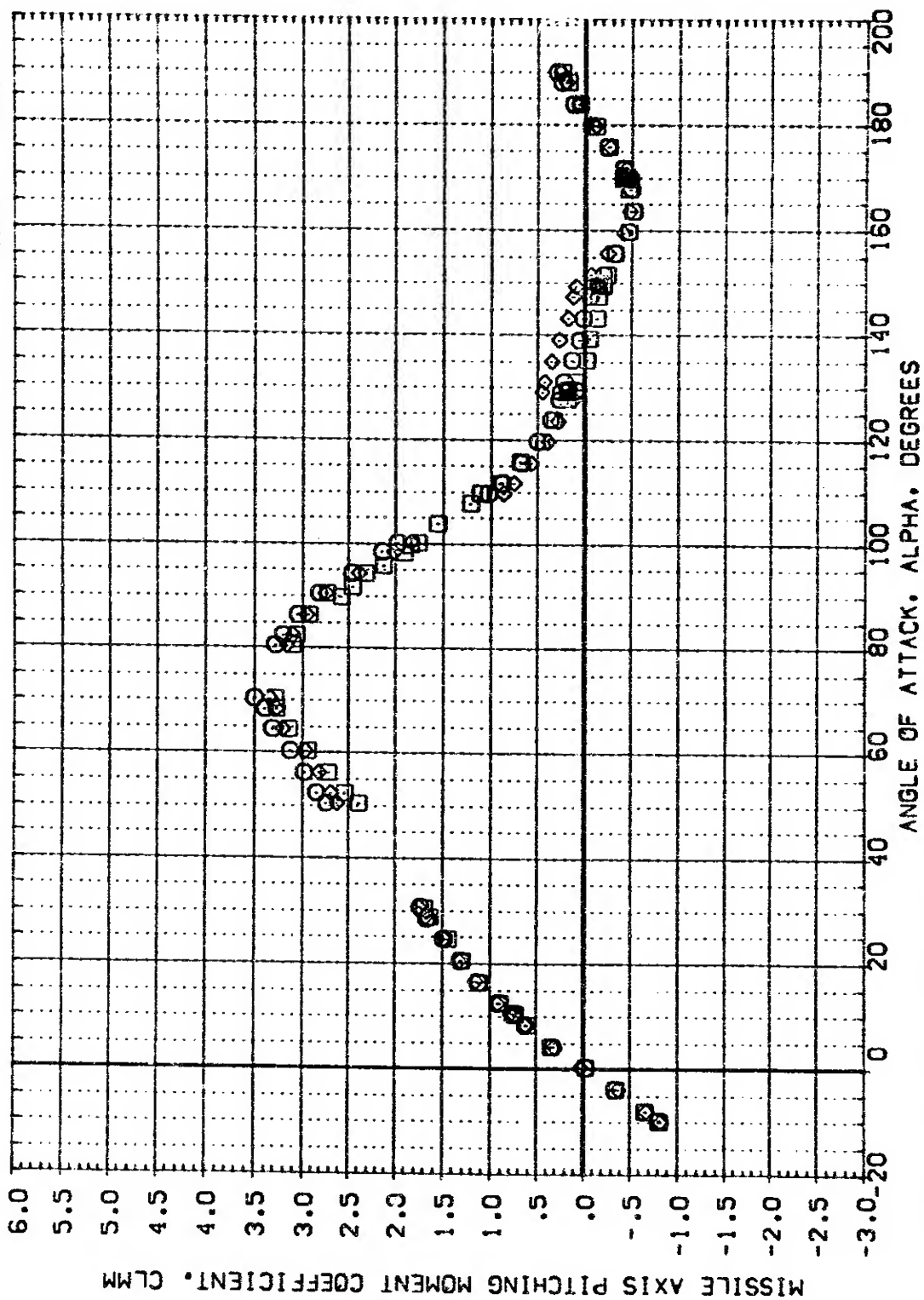
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(D99A01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 50. IN
(D99A02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .9720 IN.
(A99B01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	45.000	BREF .9720 IN.
(D99B02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	45.000	XMRP 3.2690 IN.
(D99C01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	YMRP .0000 IN.
(D99C02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	ZMRP .0000 IN.
			SCALE 50.000



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

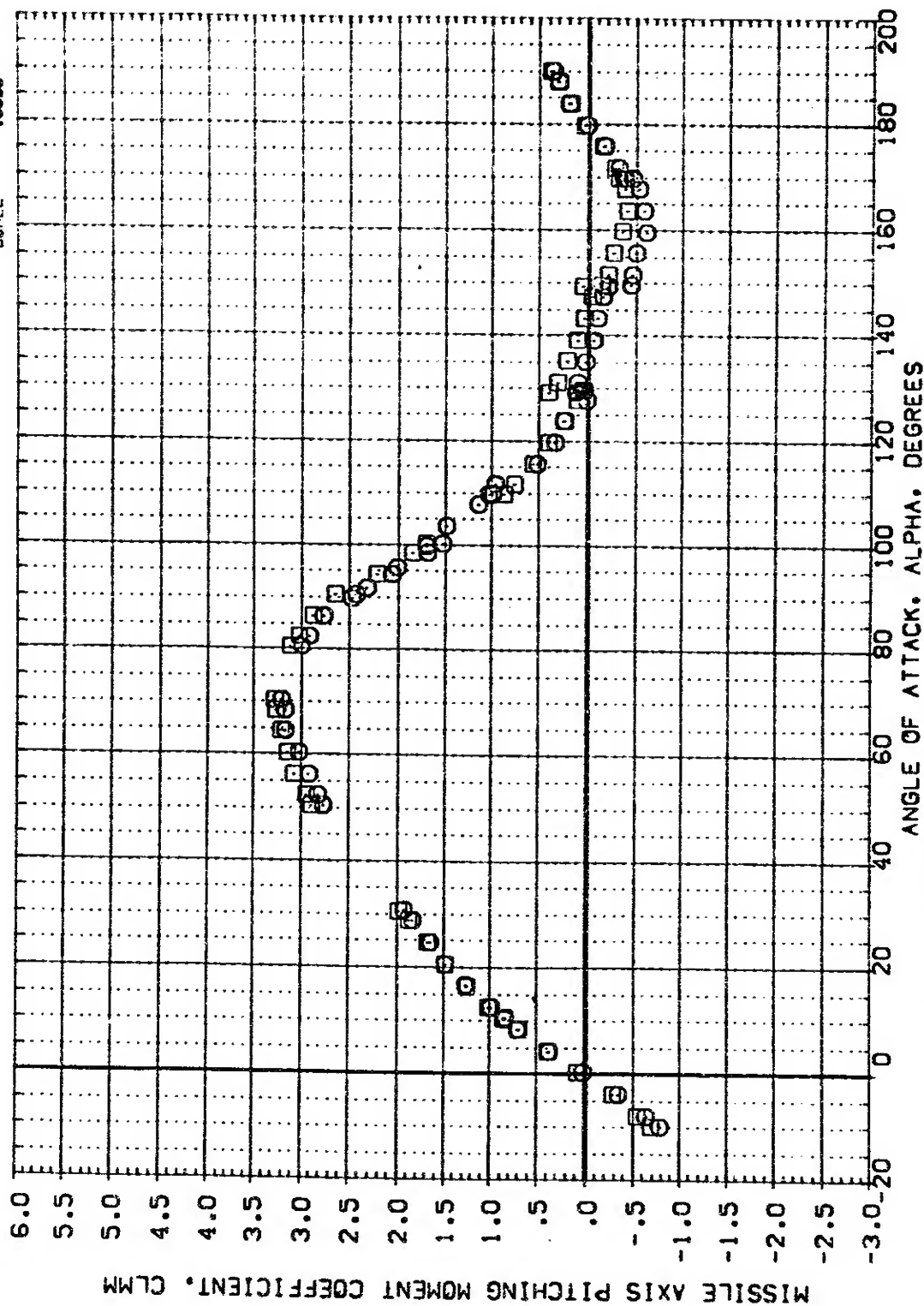
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A99D01)	MSFC 583 (TAIF) EXTERNAL TANK TI: TAIL MOUNTED	135.000	SREF .7420 IN.
(A99D02)	MSFC 583 (TAIF) EXTERNAL TANK TI: NOSE MOUNTED	135.000	LREF .9720 IN.
(D99E01)	MSFC 583 (TAIF) EXTERNAL TANK TI: TAIL MOUNTED	180.000	BREF 3.2590 IN.
(D99E02)	MSFC 583 (TAIF) EXTERNAL TANK TI: NOSE MOUNTED	180.000	XMRP .0000 IN.
(A99F01)	MSFC 583 (TAIF) EXTERNAL TANK TI: TAIL MOUNTED	225.000	YMRP .0000 IN.
(A99F02)	MSFC 583 (TAIF) EXTERNAL TANK TI: NOSE MOUNTED	225.000	ZMRP .0000 IN.
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(D99G01)	MSFC 583 (TAIF) EXTERNAL TANK II: TAIL MOUNTED	270.000	SREF .7420 SQ. IN
(D99G02)	MSFC 583 (TAIF) EXTERNAL TANK II: NOSE MOUNTED	270.000	LREF .9720 IN
(A99-01)	MSFC 583 (TAIF) EXTERNAL TANK II: TAIL MOUNTED	315.000	BREF .9720 IN
(A99-02)	MSFC 583 (TAIF) EXTERNAL TANK II: NOSE MOUNTED	315.000	YMRP 3.7590 IN
			ZMRP .0000 IN
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

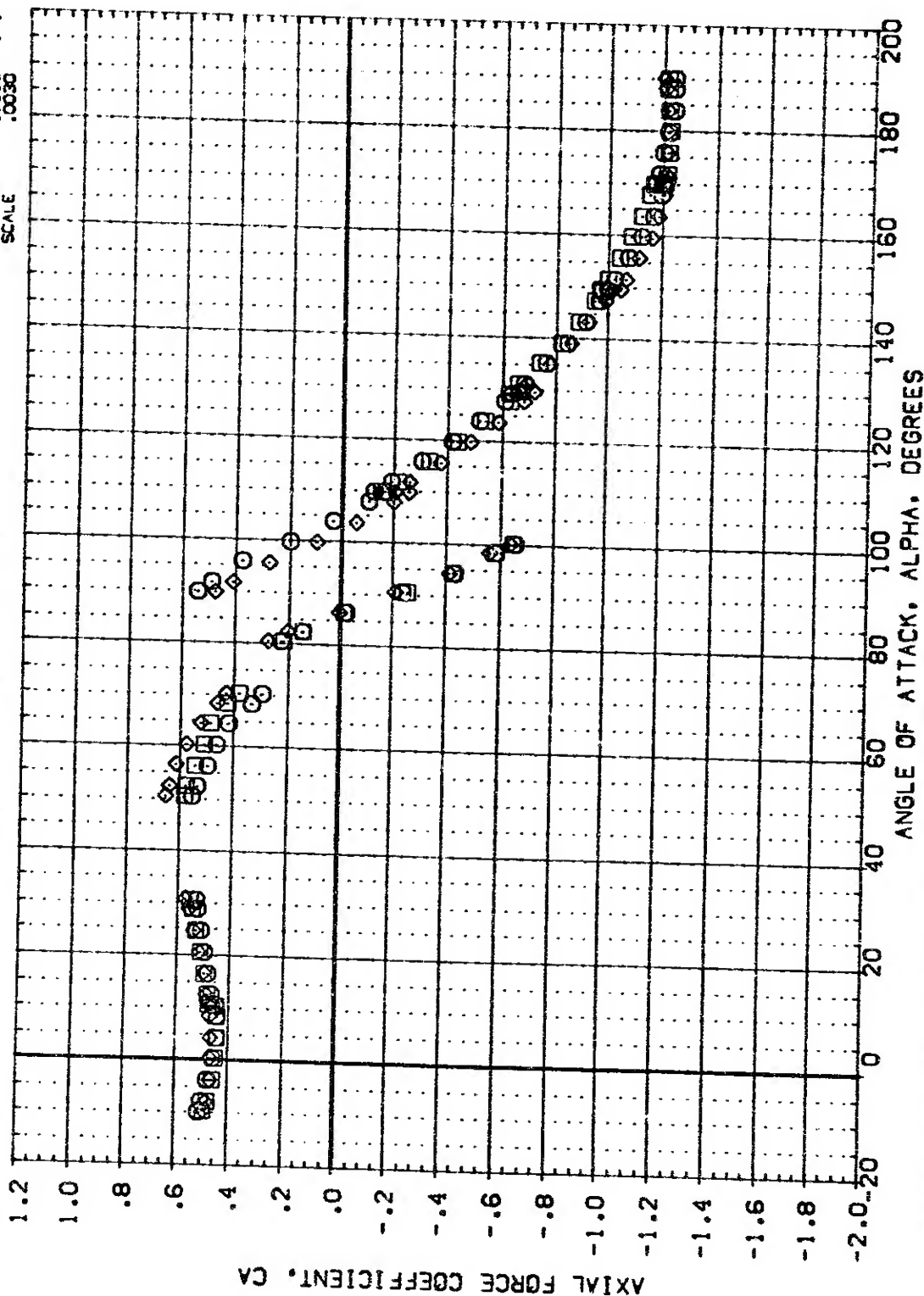
(A)MACH = 4.96

DATA SET SYMBOL: (D99A01) (D99A02) (A99B01) (A99B02) (D99C01) (D99C02)

CONFIGURATION DESCRIPTION: MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED

PHI: .000 .000 45.000 45.000 90.000 90.000

REFERENCE INFORMATION: SREF 7420 50. IN LREF .9720 50. IN BREF .9720 50. IN XMRP 3.7550 50. IN YMRP .0000 50. IN ZMRP .0000 50. IN SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

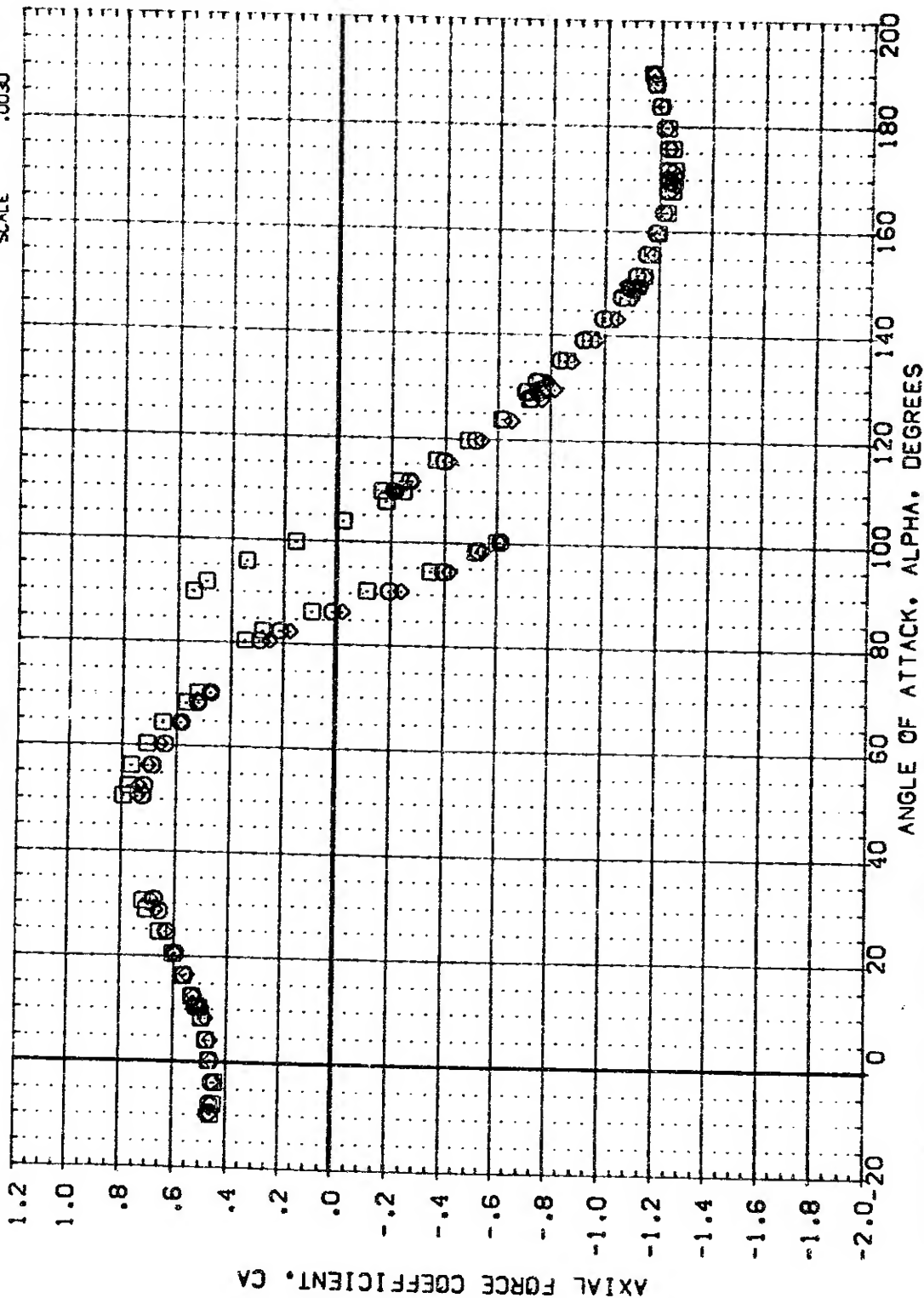
(A)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PH1

(A99001)	MSFC 583 (TAIF) EXTERNAL TANK	135.000
(A99002)	MSFC 583 (TAIF) EXTERNAL TANK	135.000
(D99E01)	MSFC 583 (TAIF) EXTERNAL TANK	160.000
(D99E02)	MSFC 583 (TAIF) EXTERNAL TANK	160.000
(A99F01)	MSFC 583 (TAIF) EXTERNAL TANK	225.000
(A99F02)	MSFC 583 (TAIF) EXTERNAL TANK	225.000

REFERENCE INFORMATION

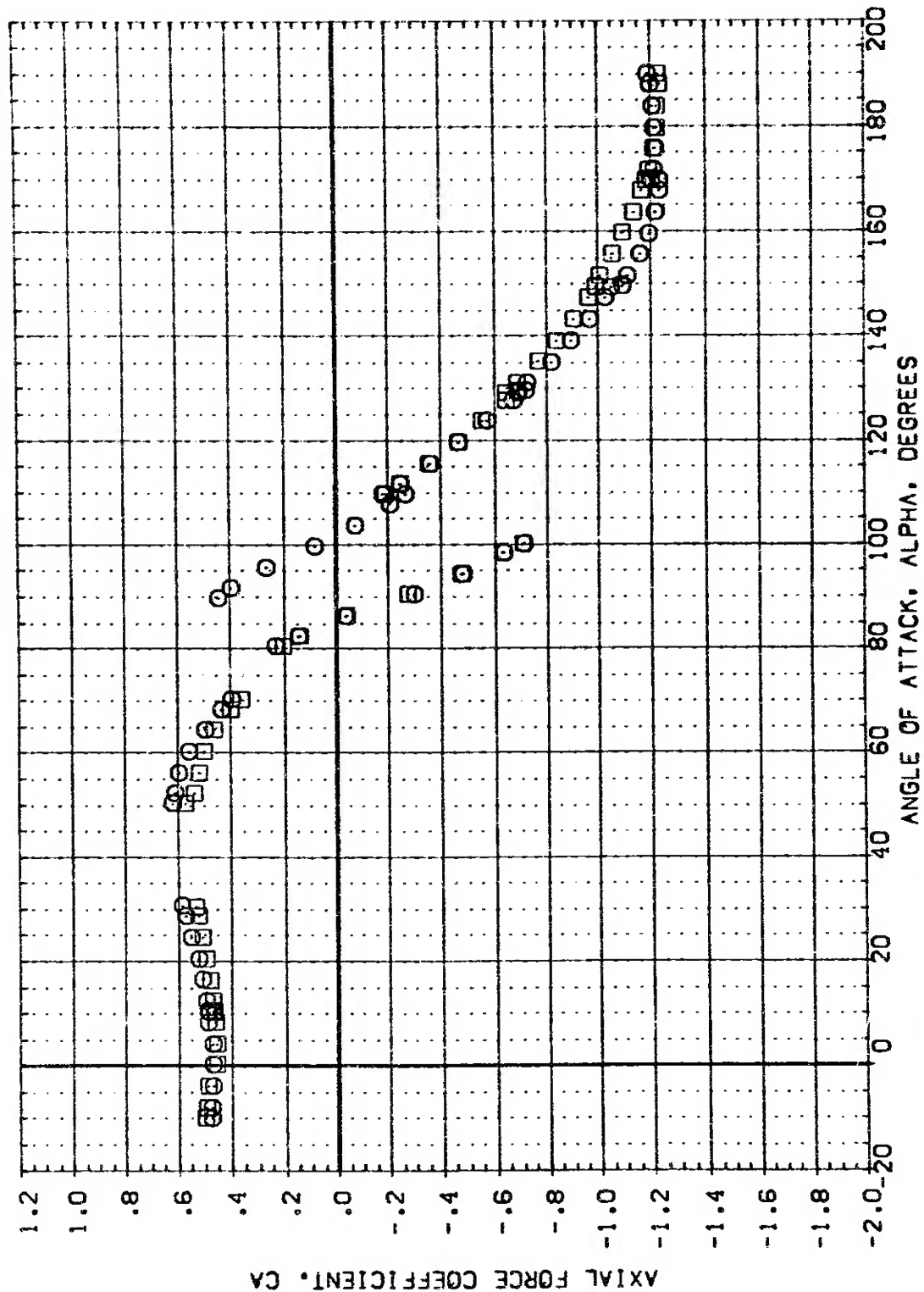
SREF	.7420	50.	IN
LREF	.9720	IN	IN
BREF	.9720	IN	IN
XMRP	3.2580	IN	IN
YMRP	.0000	IN	IN
ZMRP	.0000	IN	IN
SCALE	.0030		



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(D99G01)	MSFC 583 (TAIF) EXTERNAL TANK T1	270.000	SREF .7420 SQ IN
(D99G02)	MSFC 583 (TAIF) EXTERNAL TANK T1	270.000	LREF .5720 IN
(A99-01)	MSFC 583 (TAIF) EXTERNAL TANK T1	315.000	BREF .5720 IN
(A99-02)	MSFC 583 (TAIF) EXTERNAL TANK T1	315.000	YMRP 3.7590
			ZMRP .0000
			SCALE .0030

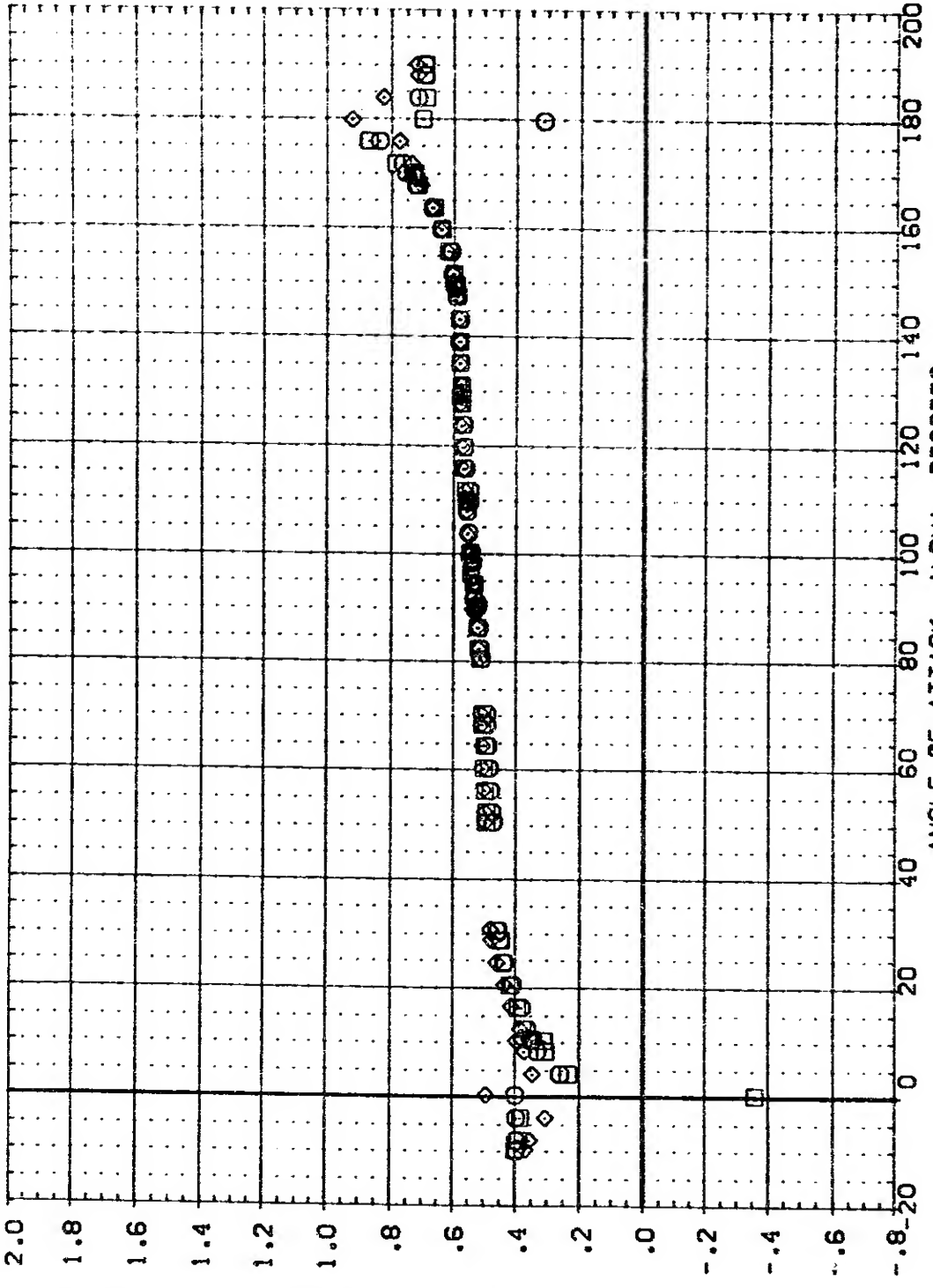


EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PH-I REFERENCE INFORMATION

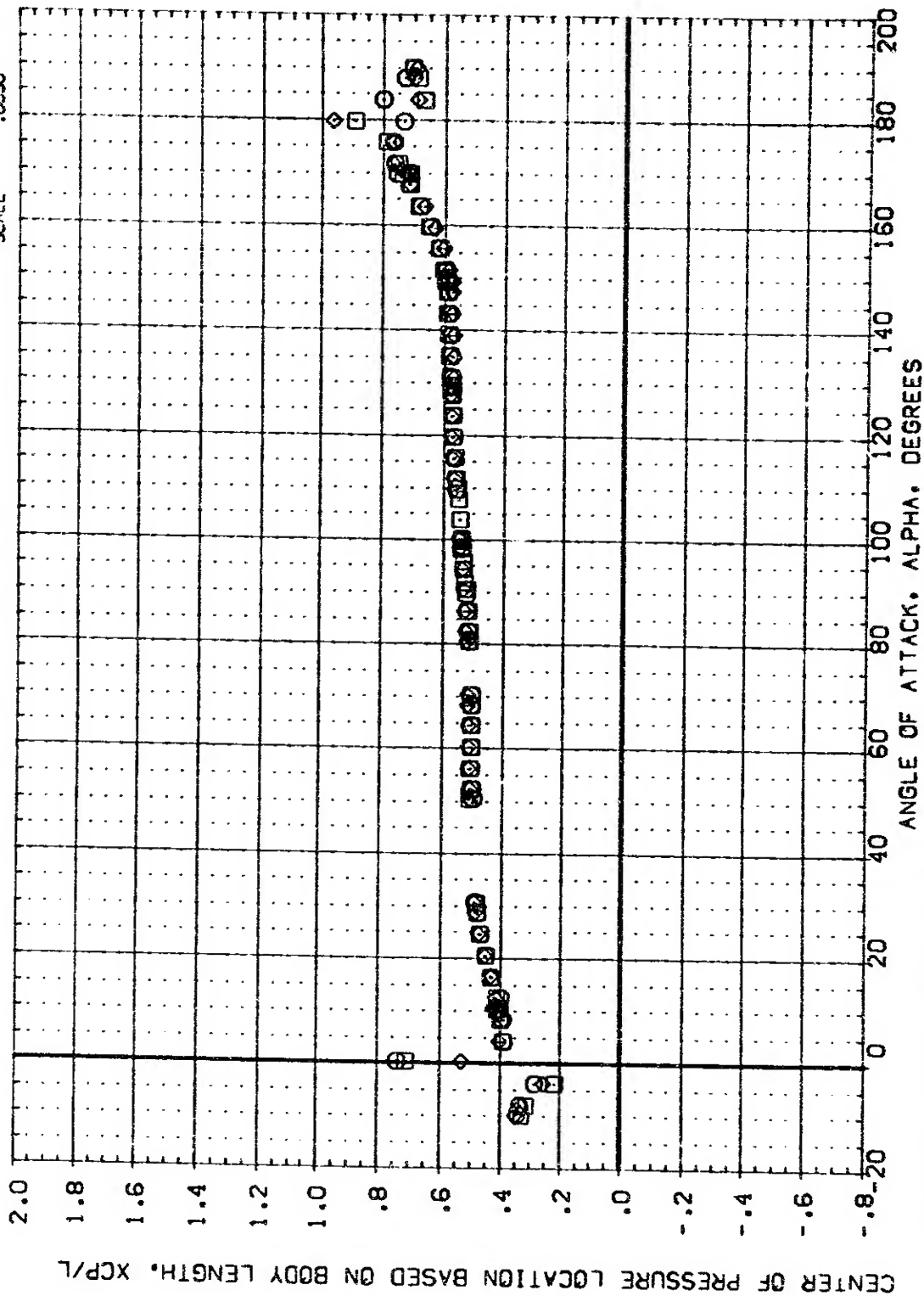
[099A01]	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 SO: IN
[099A02]	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .9720 IN: IN
[A99B01]	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	45.000	BREF 3.2590 IN: IN
[A99B02]	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	45.000	XMRP .0000 IN: IN
[099C01]	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	YMRP .0000 IN: IN
[099C02]	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	ZMRP .0000 IN: IN
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

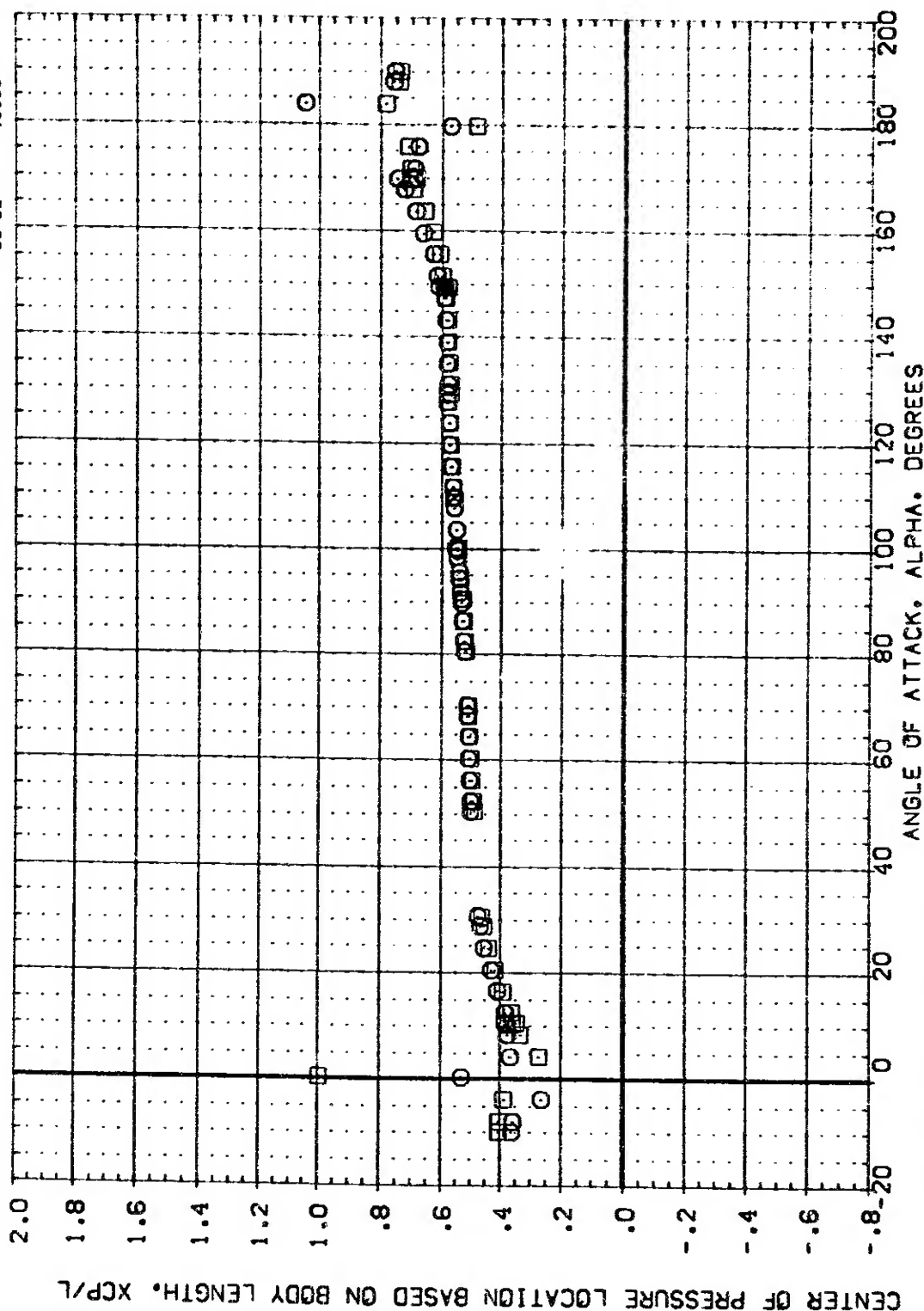
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(A99D01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	135.000	SREF .7420 IN.
(A99D02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	135.000	LREF .9720 IN.
(A99E01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	180.000	BREF .9720 IN.
(A99E02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	180.000	YMRP 3.2580 IN.
(A99F01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	225.000	ZMRP .0000 IN.
(A99F02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	225.000	SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

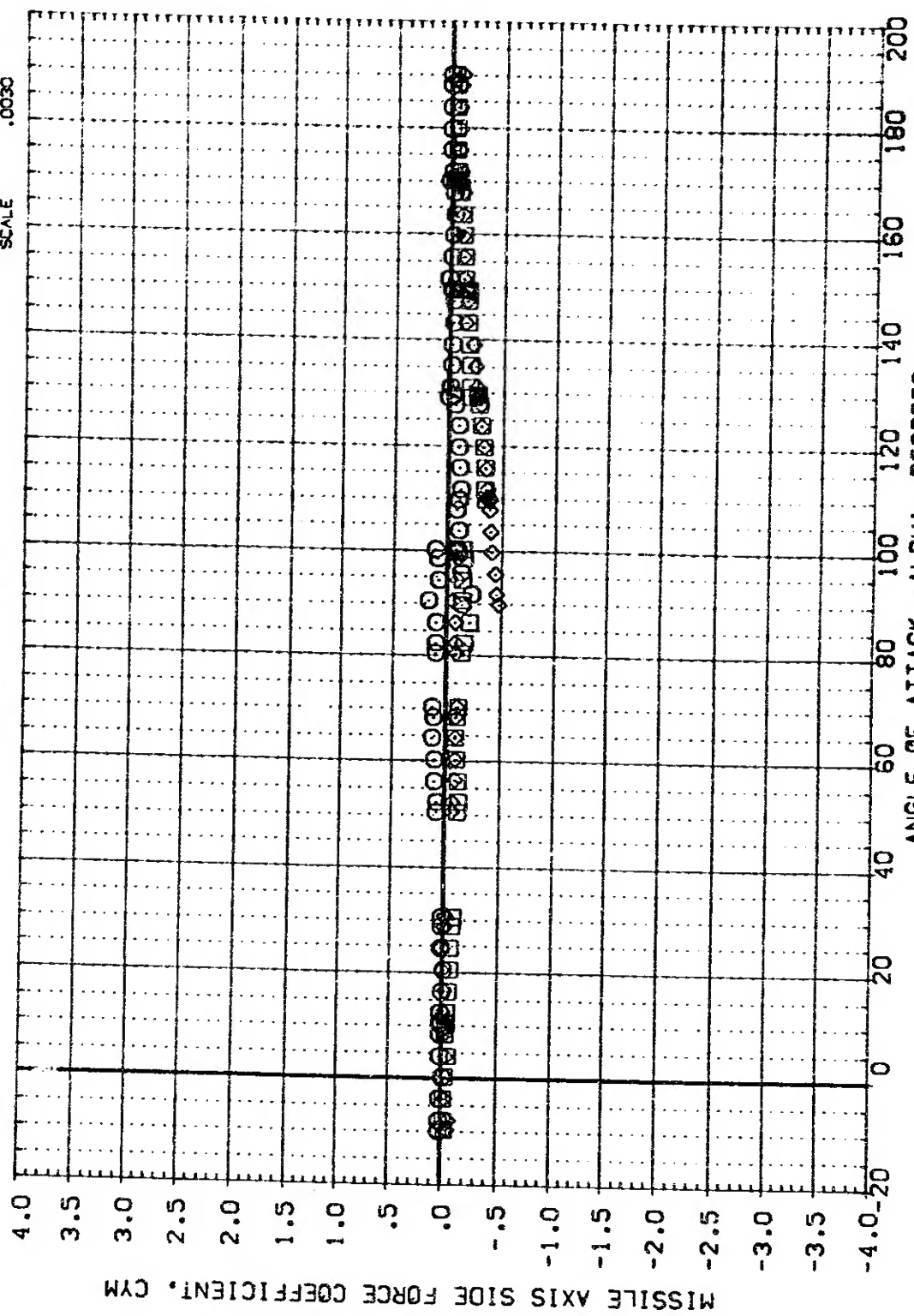
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(099G01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	270.000	SREF .7420 SQ. IN
(099G02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	270.000	LREF .9720 IN.
(A99H01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	315.000	BREF .9720 IN.
(A99H02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	315.000	XMRP 3.2590 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(059A01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 SQ. IN
(059A02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .9720 IN.
(059B01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	15.000	BREF .9720 IN.
(059B02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	45.000	XMRD 3.2590 IN.
(059C01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	YMRD .0000 IN.
(059C02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	ZMRD .0000 IN.
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

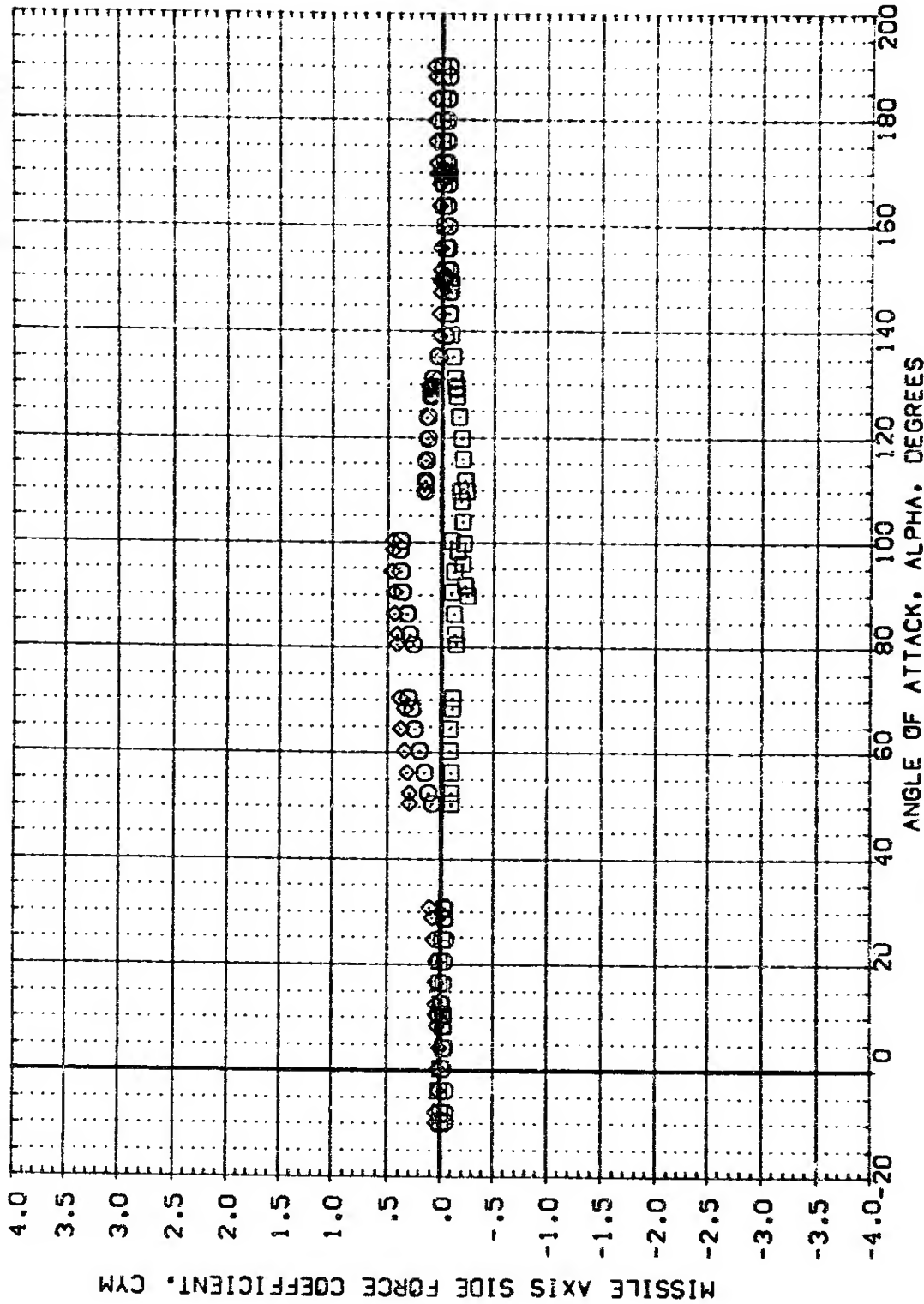
(A)MACH = 4.96

DATA SET SYMBOL:

CONFIGURATION DESCRIPTION: MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED

PHI: 135.000
 135.000
 180.000
 180.000
 225.000
 225.000

REFERENCE INFORMATION: SREF .7420 50. IN.
 LREF .9720 IN.
 BREF .9720 IN.
 XMRP 3.2590 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

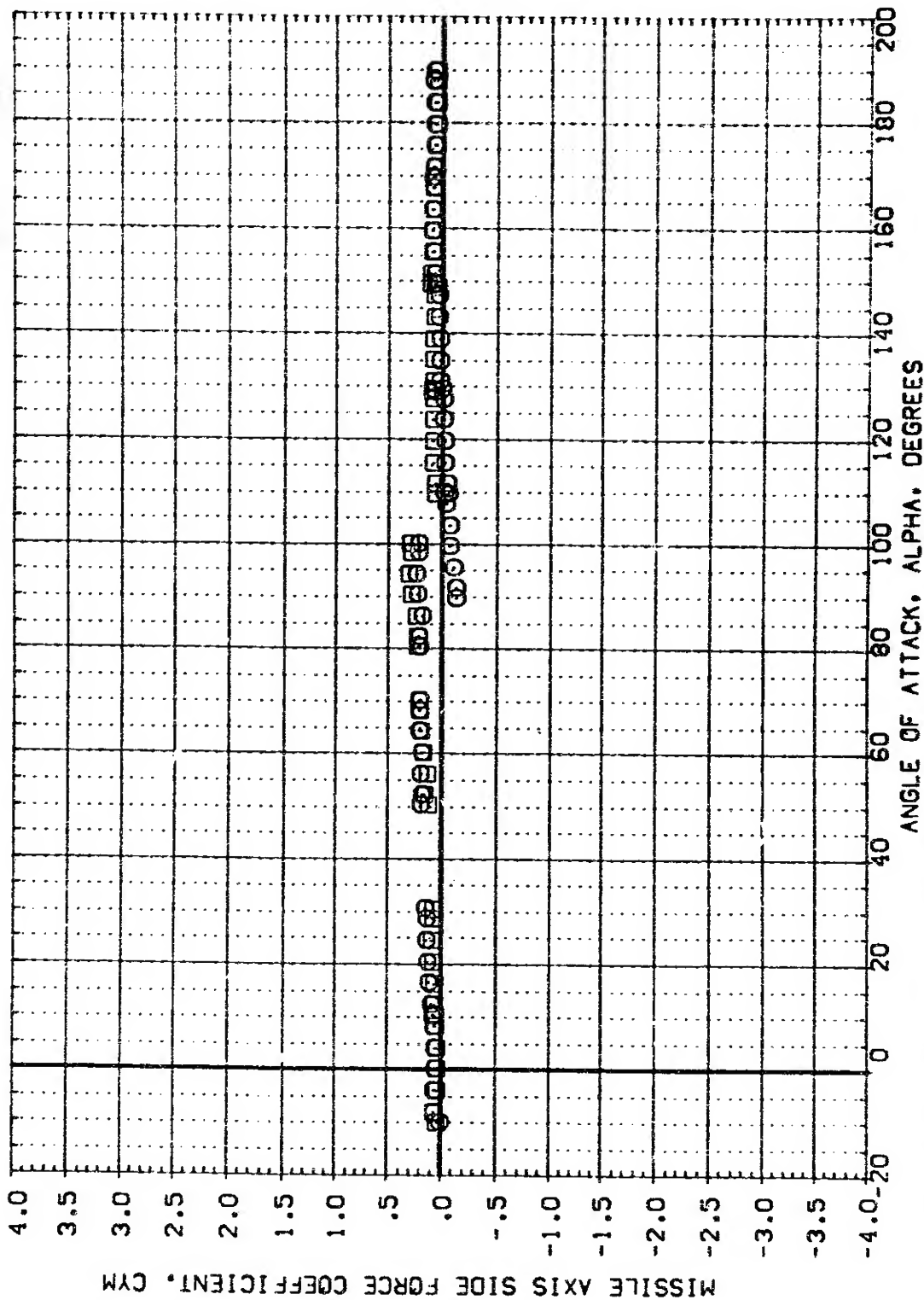
(A)MACH = 4.96

DATA SET SYMBOL: (099G01) (099G02) (A99H01) (A99H02)

CONFIGURATION DESCRIPTION: MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED

PHI: 270.000 270.000 315.000 315.000

REFERENCE INFORMATION: SREF 7420 50. IN LREF 9720 50. IN BREF 9720 50. IN XMRP 3.2590 50. IN YMRP 0.0000 50. IN ZMRP 0.0000 50. IN SCALE 0.0030



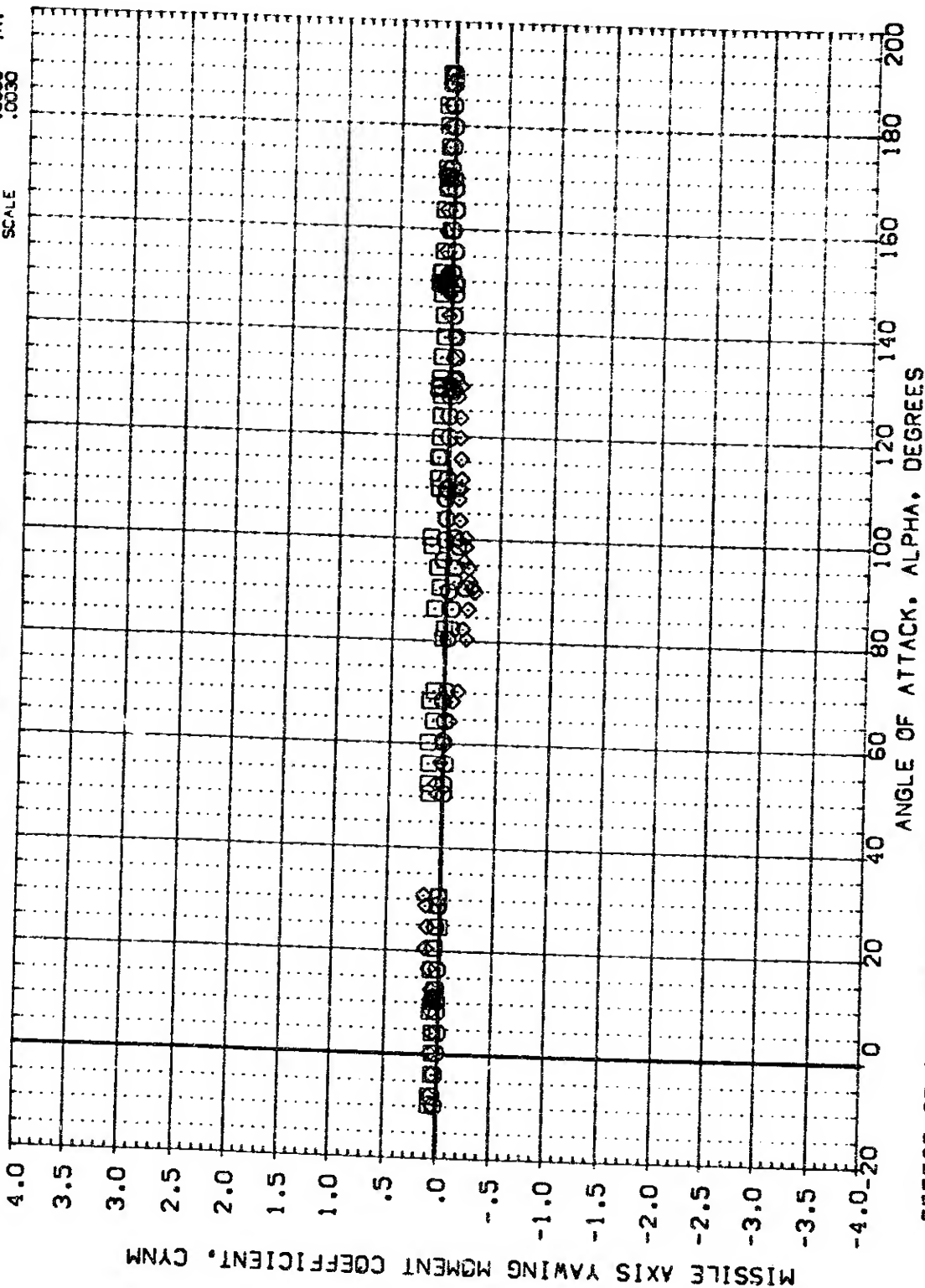
EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(D99A01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 50. IN
(D99A02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .9720 IN.
(A99B01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	45.000	BREF .9720 IN.
(A99B02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	45.000	XMRP 3.2590 IN.
(D99C01)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	90.000	YMRP .0000 IN.
(D99C02)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	90.000	ZMRP .0000 IN.

SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

{A99D01} MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED 135.000

{A99D02} MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED 135.000

{A99E01} MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED 180.000

{A99E02} MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED 180.000

{A99F01} MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED 225.000

{A99F02} MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED 225.000

REFERENCE INFORMATION

SREF .7420 IN.

LREF .9720 IN.

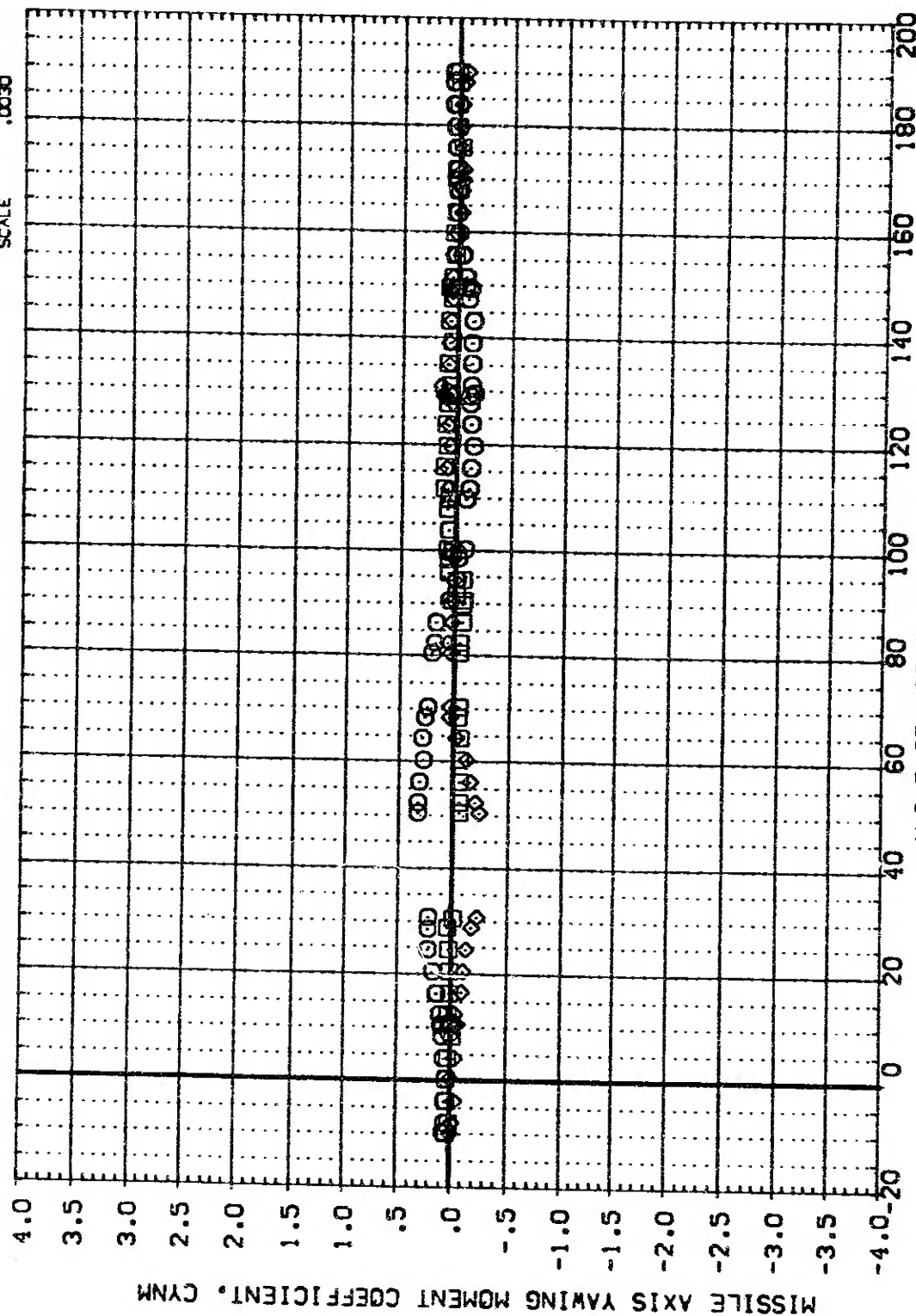
BREF .9720 IN.

XMRP 3.2580 IN.

VMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0030



ANGLE OF ATTACK, ALPHA, DEGREES

EFFECT OF ROLL POSITION ON STATIC STABILITY

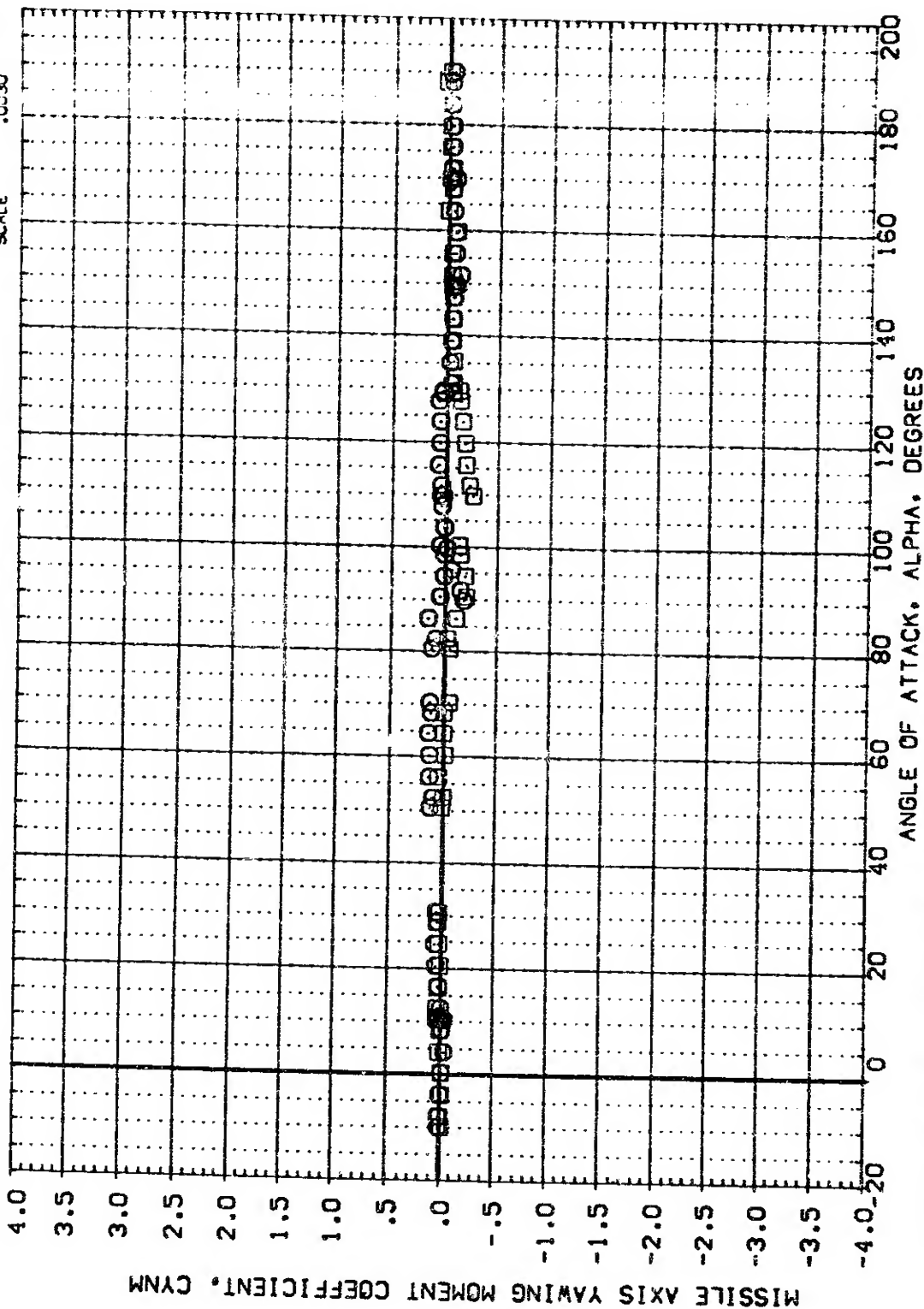
(A)MACH = 4.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(D99G01)	MSFC 583 (TAIF) EXTERNAL TANK T1	270.000
(D99G02)	MSFC 583 (TAIF) EXTERNAL TANK T1	270.000
(A99-01)	MSFC 583 (TAIF) EXTERNAL TANK T1	315.000
(A99-02)	MSFC 583 (TAIF) EXTERNAL TANK T1	315.000

REFERENCE INFORMATION

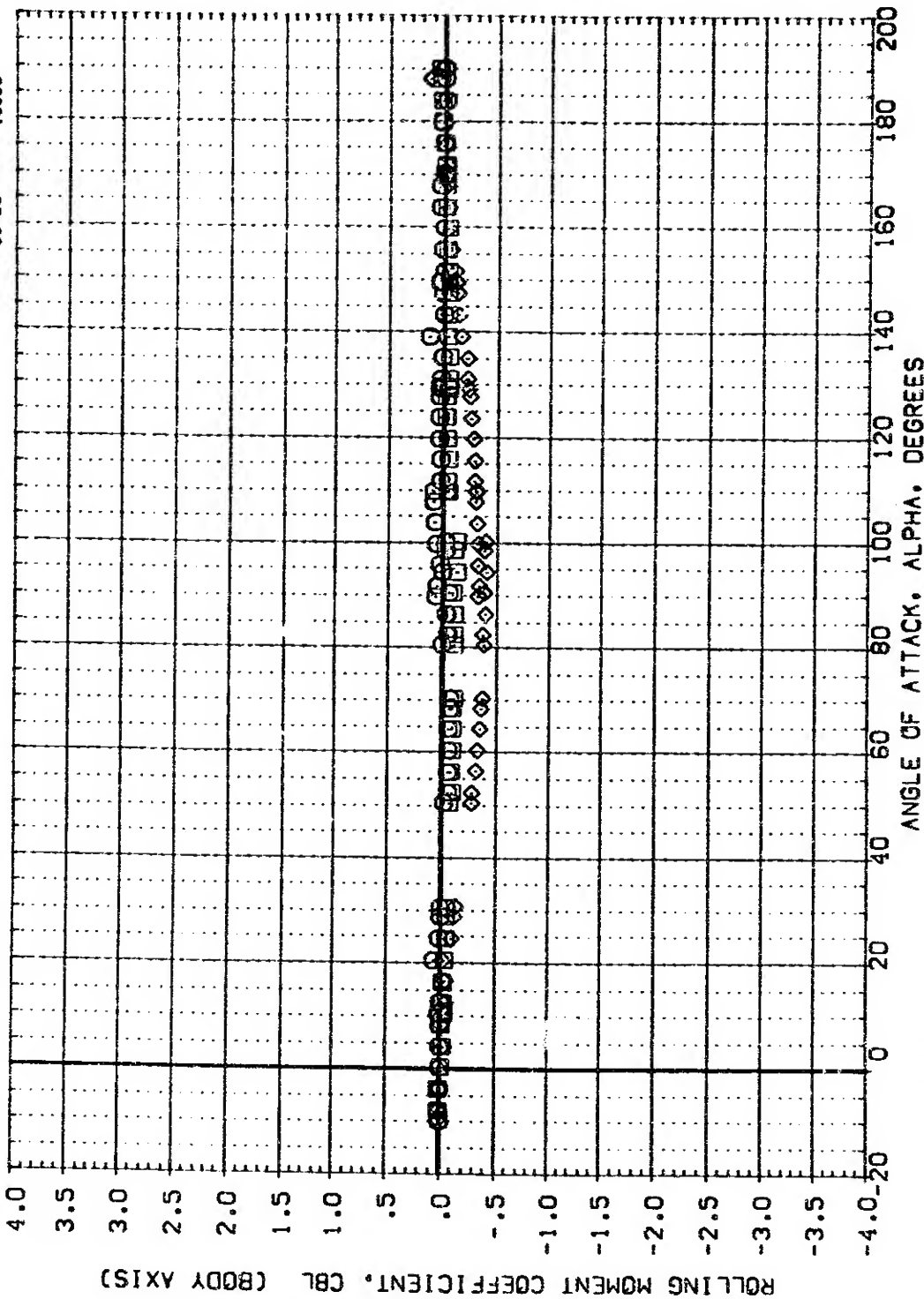
SREF	74.20	SO	IN
LREF	91.20	IN	
BREF	97.20	IN	
XMRP	3.2500	IN	
YMRP	.0000	IN	
ZMRP	.0000	IN	
SCALE	.0030		



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(D99A01)	MSFC 583 (TAIF) EXTERNAL TANK T1	.000	SREF .7420 S0 IN
(D99A02)	MSFC 583 (TAIF) EXTERNAL TANK T1	.000	LREF .9720 IN
(A99B01)	MSFC 583 (TAIF) EXTERNAL TANK T1	45.000	BREF .9720 IN
(A99B02)	MSFC 583 (TAIF) EXTERNAL TANK T1	45.000	XREF 3.2530 IN
(D99C01)	MSFC 583 (TAIF) EXTERNAL TANK T1	90.000	YREF .0000 IN
(D99C02)	MSFC 583 (TAIF) EXTERNAL TANK T1	90.000	ZREF .0000 IN
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

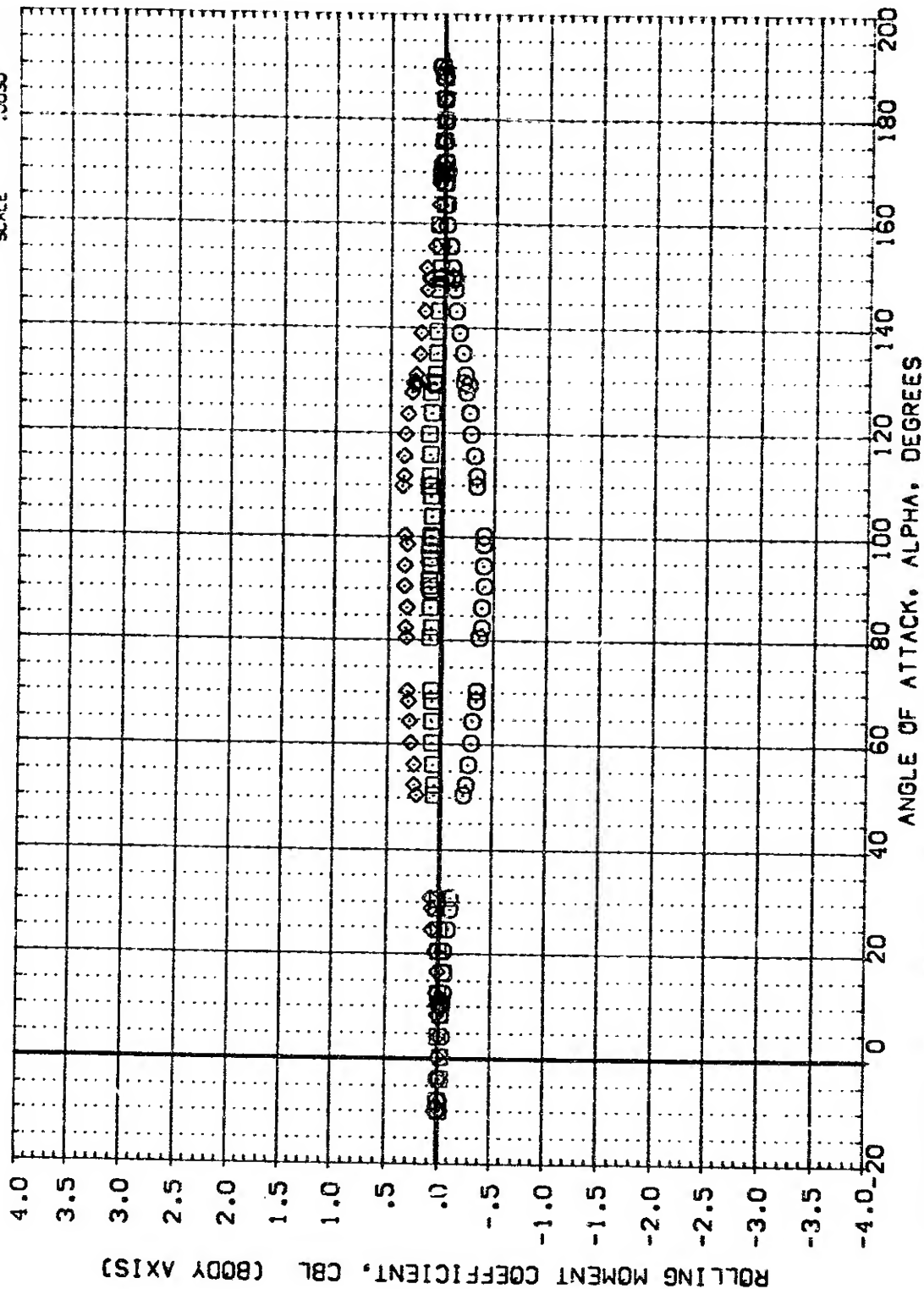
(A)MACH = 4.96

DATA SET SYMBOL
 (A99001)
 (A99002)
 (D99E01)
 (D99E02)
 (A99F01)
 (A99F02)

CONFIGURATION DESCRIPTION
 MSFC 583 (TAIF) EXTERNAL TANK T1
 MSFC 583 (TAIF) EXTERNAL TANK T1
 MSFC 583 (TAIF) EXTERNAL TANK T1
 MSFC 583 (TAIF) EXTERNAL TANK T1
 MSFC 583 (TAIF) EXTERNAL TANK T1

PHI
 135.000
 135.000
 160.000
 160.000
 225.000
 225.000

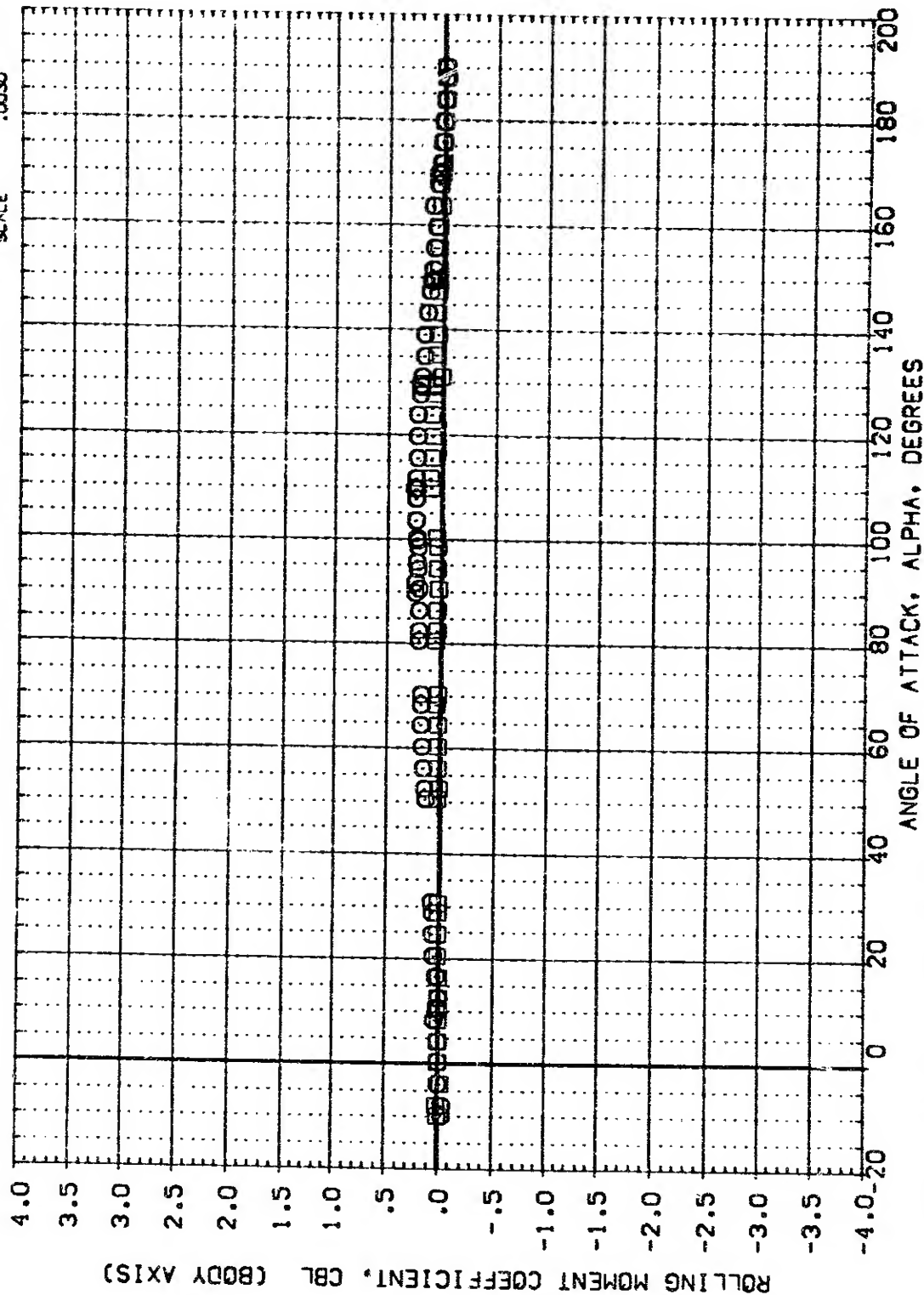
REFERENCE INFORMATION
 SREF 7420 58. IN
 LREF 5720 IN.
 BREF 5720 IN.
 XMRP 3.2590 IN.
 YMRP 1.0000 IN.
 ZMRP 1.0000 IN.
 SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

(A)MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(D99001)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	270.000	SREF .7420 SQ. IN
(D99002)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	270.000	LREF .9720 IN.
(A99001)	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	315.000	BREF .9720 IN.
(A99002)	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	315.000	XMRP 3.2590 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



EFFECT OF ROLL POSITION ON STATIC STABILITY

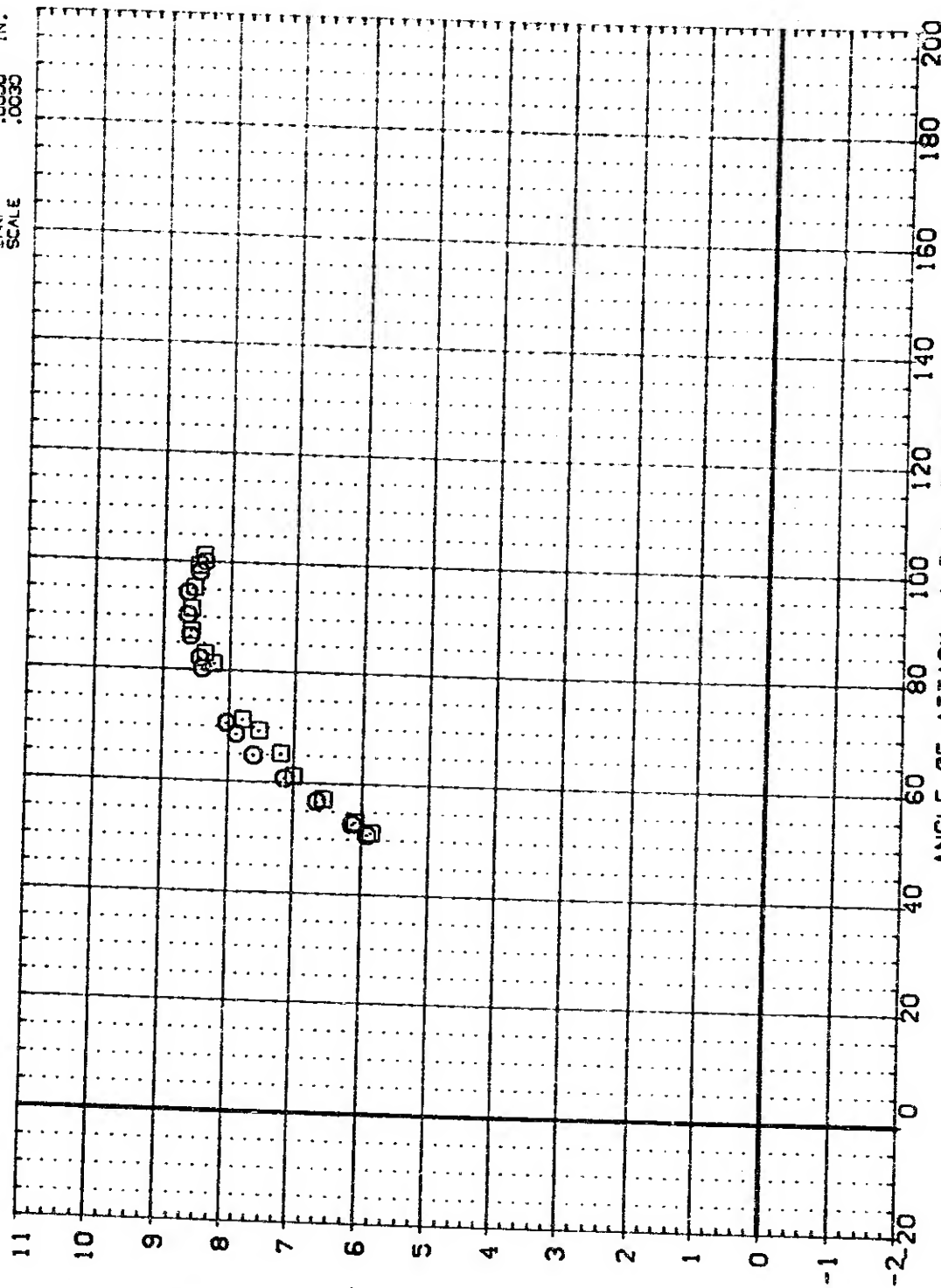
(A)MACH = 4.96

DATA SET SYMBOL
(899K01)
(899K02)

CONFIGURATION DESCRIPTION
MSFC 583 (TAIF) EXTERNAL TANK T2: SIDE MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK T2: TAIL MOUNTED

PHI
.000
.000

REFERENCE INFORMATION
SREF .7420 SQ. IN
LREF .9720
BREF .9720
XMRP 3.2590
YMRP .0000
ZMRP .0000
SCALE .0030



COMPARISON OF MOUNTING ARRANGEMENTS OF TANKS WITHOUT PROTUBERANCES

(A)MACH = 1.95

DATA SET SYMBOL CONFIGURATION DESCRIPTION PH1

(B99K01) MSFC 583 (TAIF) EXTERNAL TANK T2, SIDE MOUNTED .000

(B99K02) MSFC 583 (TAIF) EXTERNAL TANK T2, TAIL MOUNTED .000

REFERENCE INFORMATION

SREF .7420 SQ. IN.

LREF .9720 IN.

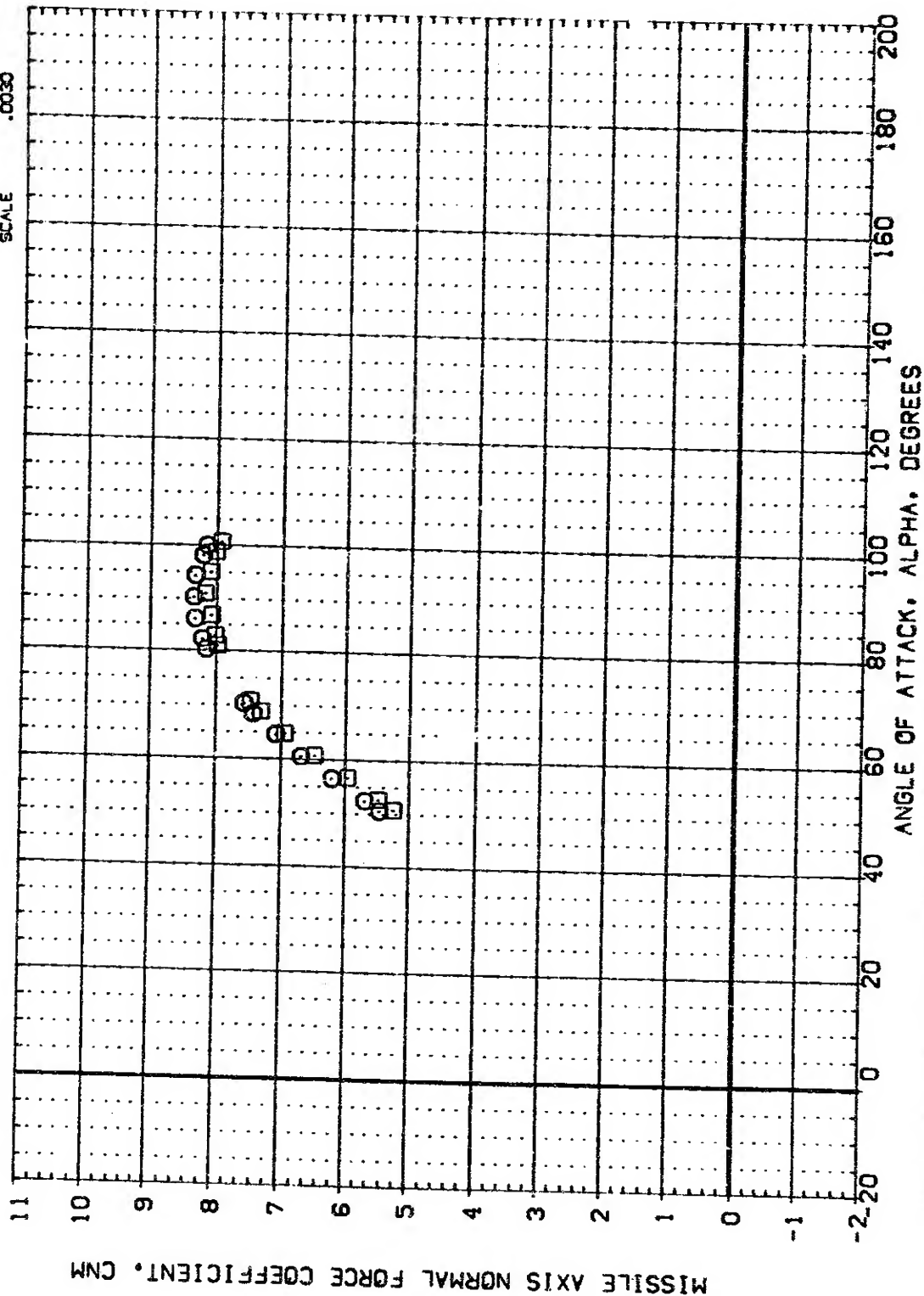
BREF .9720 IN.

XMRP 3.2590 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0030



COMPARISON OF MOUNTING ARRANGEMENTS OF TANKS WITHOUT PROTUBERANCES

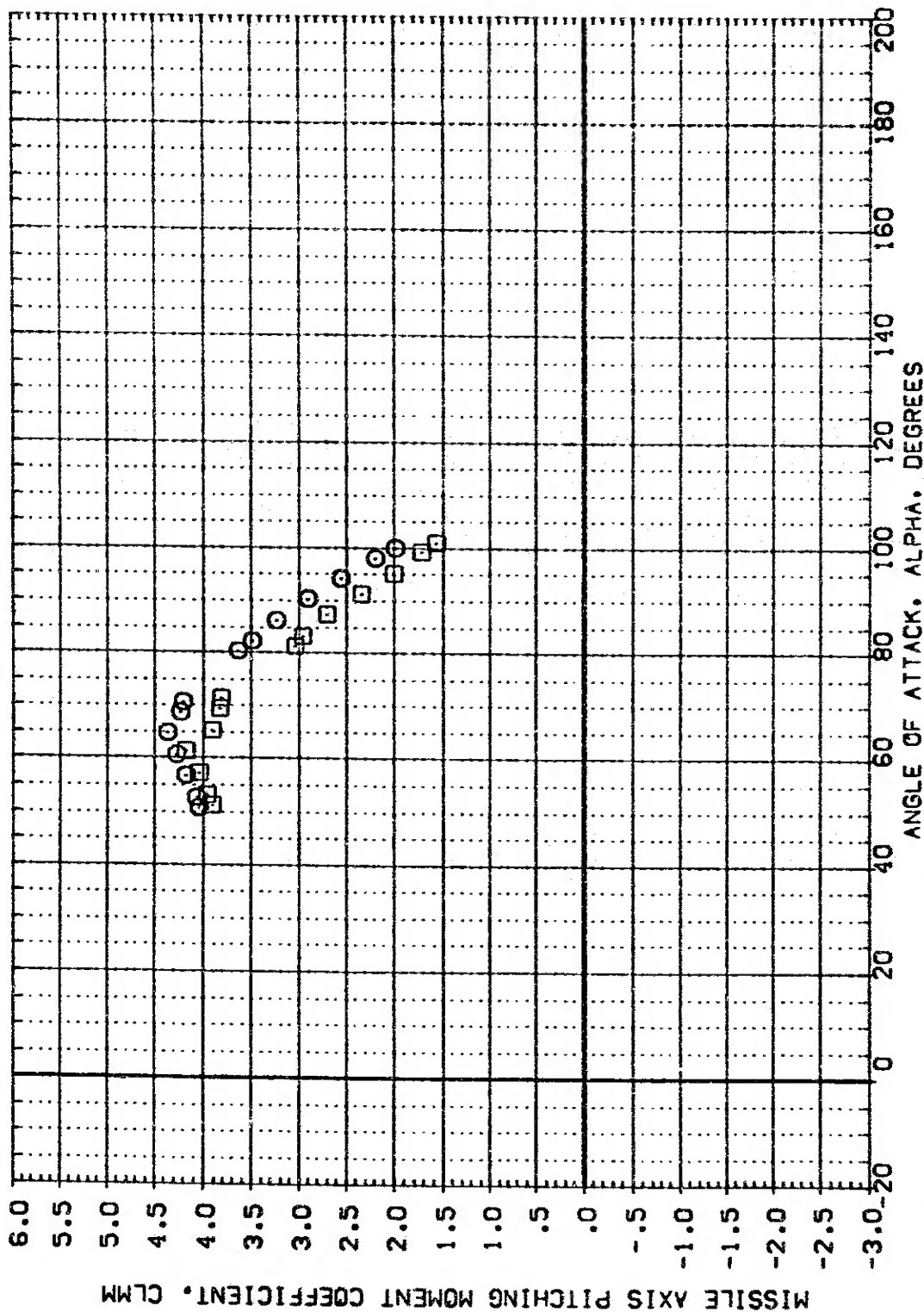
(B)MACH = 3.48

DATA SET SYMBOL: (B99K01) (B99K02) ☐ ☐

CONFIGURATION DESCRIPTION: MSFC 583 (TAIF) EXTERNAL TANK 12; SIDE MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK 12; TAIL MOUNTED

PHI: .000
.000

REFERENCE INFORMATION:
SREF: .7420 SQ: IN
LREF: .9720 IN: IN
BREF: .9720 IN: IN
XMRP: 3.2550 IN: IN
YMRP: .0000 IN: IN
ZMRP: .0000 IN: IN
SCALE: .0030



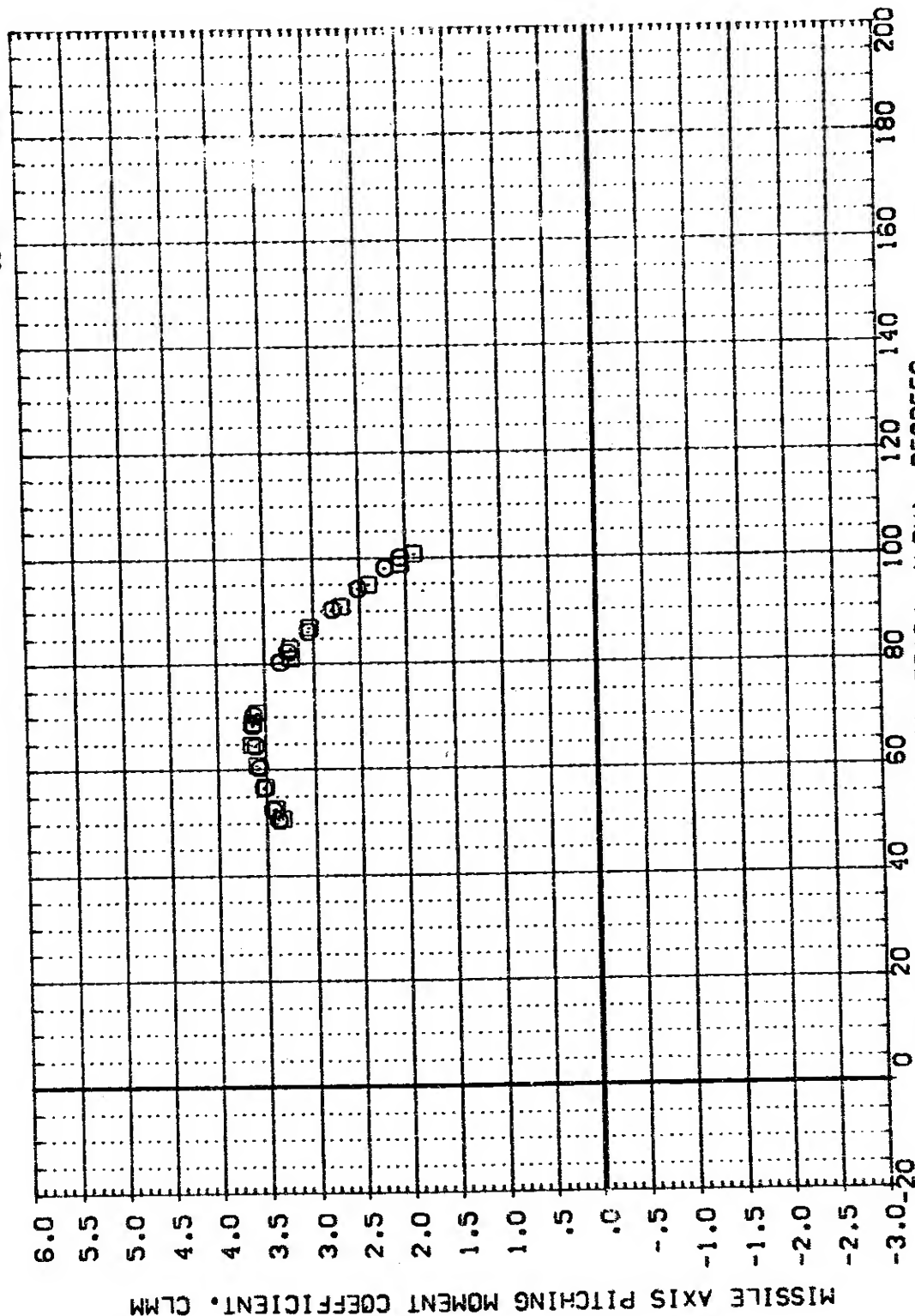
COMPARISON OF MOUNTING ARRANGEMENTS OF TANKS WITHOUT PROTUBERANCES

(A)MACH = 1.95

REFERENCE INFORMATION
 SREF .7420 IN.
 LREF .9720 IN.
 BREF .9720 IN.
 XMRP 3.2590 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0030


Phi .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (B99K01) MSFC 583 (TAIF) EXTERNAL TANK 12, SIDE MOUNTED
 (B99K02) MSFC 583 (TAIF) EXTERNAL TANK 12, TAIL MOUNTED



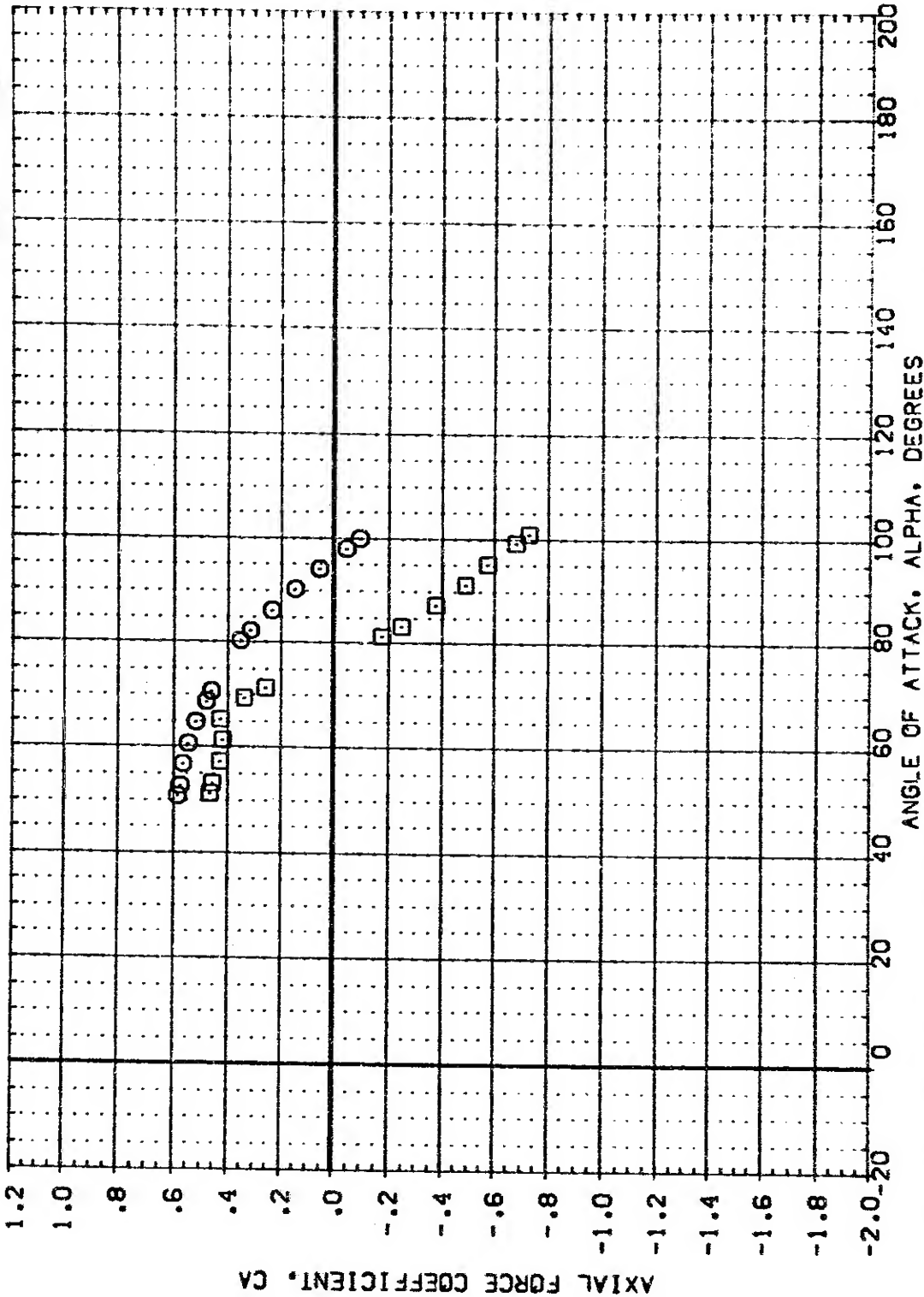
COMPARISON OF MOUNTING ARRANGEMENTS OF TANKS WITHOUT PROTUBERANCES

(B)MACH = 3.48

DATA SET SYMBOL: (B99K01) (B99K02)  CONFIGURATION DESCRIPTION: MSFC 583 (TAIF) EXTERNAL TANK 12; SIDE MOUNTED MSFC 583 (TAIF) EXTERNAL TANK 12; TAIL MOUNTED

PHI: .000

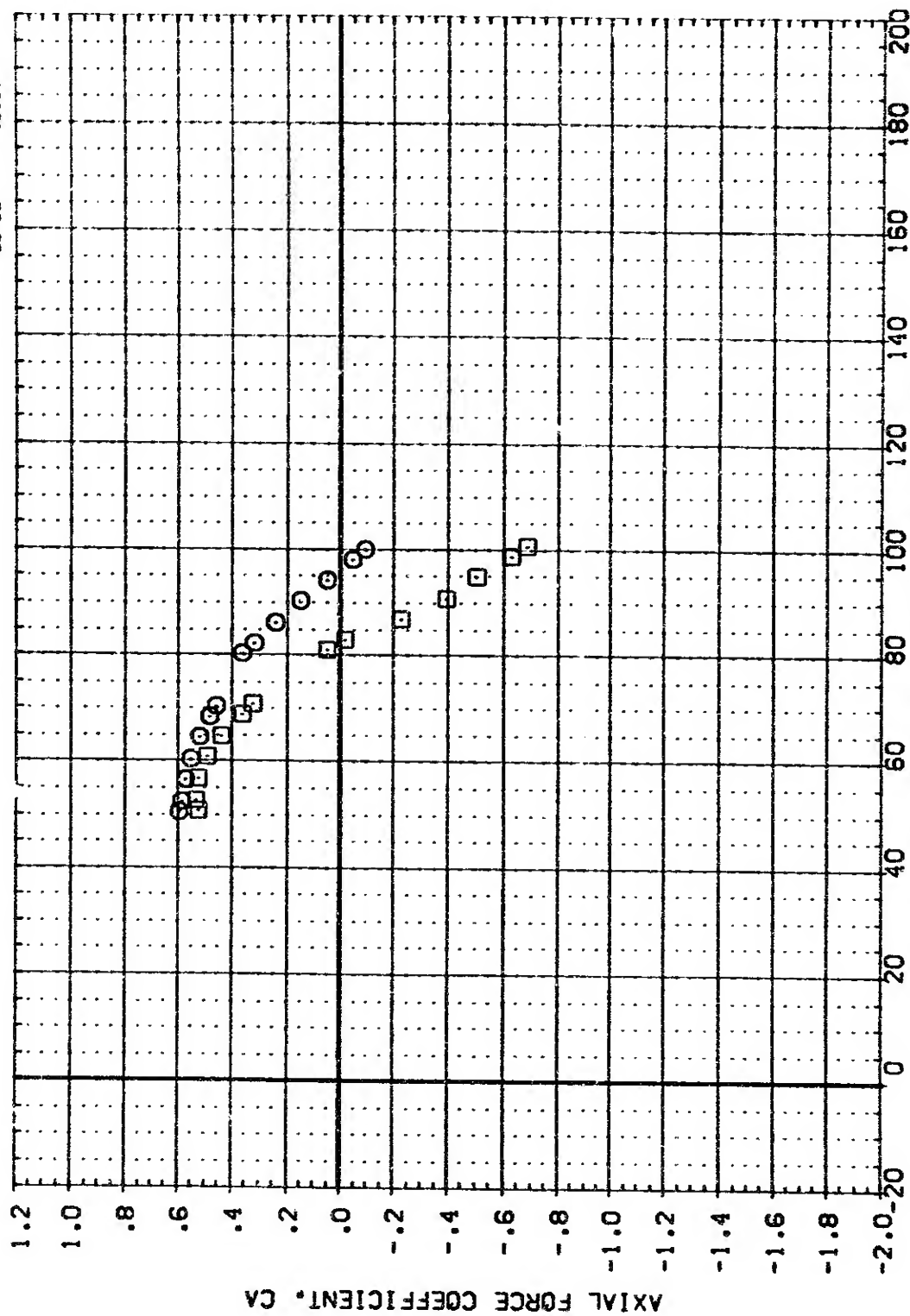
REFERENCE INFORMATION:
 SREF: 7420 50. IN
 LREF: .9720 IN.
 BREF: .9720 IN.
 XMRP: 3.2590 IN.
 YMRP: .0000 IN.
 ZMRP: .0000 IN.
 SCALE: .0030



COMPARISON OF MOUNTING ARRANGEMENTS OF TANKS WITHOUT PROTUBERANCES

(A)MACH = 1.95

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
(899K01)	MSFC 583 (TAIF) EXTERNAL TANK T2, SIDE MOUNTED	.000	SREF .7420 SQ. IN.
(899K02)	MSFC 583 (TAIF) EXTERNAL TANK T2, TAIL MOUNTED	.000	LREF .9720 IN.
			BREF .9720 IN.
			XMRP 3.2590 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



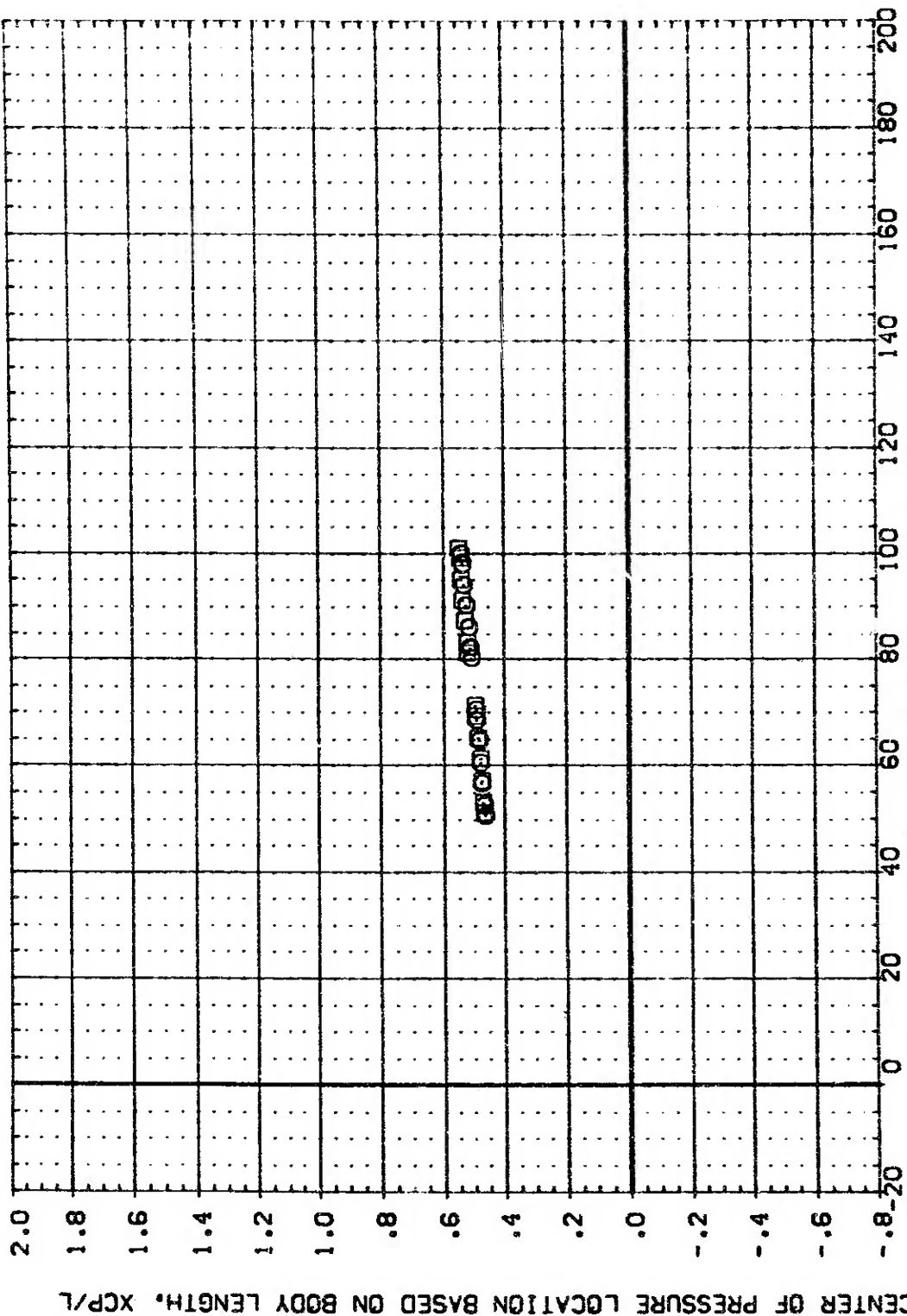
COMPARISON OF MOUNTING ARRANGEMENTS OF TANKS WITHOUT PROTUBERANCES

(B)MACH = 3.48

DATA SET SYMBOL: MSFC 583 (TAIF) EXTERNAL TANK T2, SIDE MOUNTED
 (899K02) MSFC 583 (TAIF) EXTERNAL TANK T2, TAIL MOUNTED

PHI: .000
 .000

REFERENCE INFORMATION
 SREF: .7420 IN.
 LREF: .5720 IN.
 BREF: .5720 IN.
 XMRP: 3.2590 IN.
 YMRP: .0000 IN.
 ZMRP: .0000 IN.
 SCALE: .0030



COMPARISON OF MOUNTING ARRANGEMENTS OF TANKS WITHOUT PROTUBERANCES

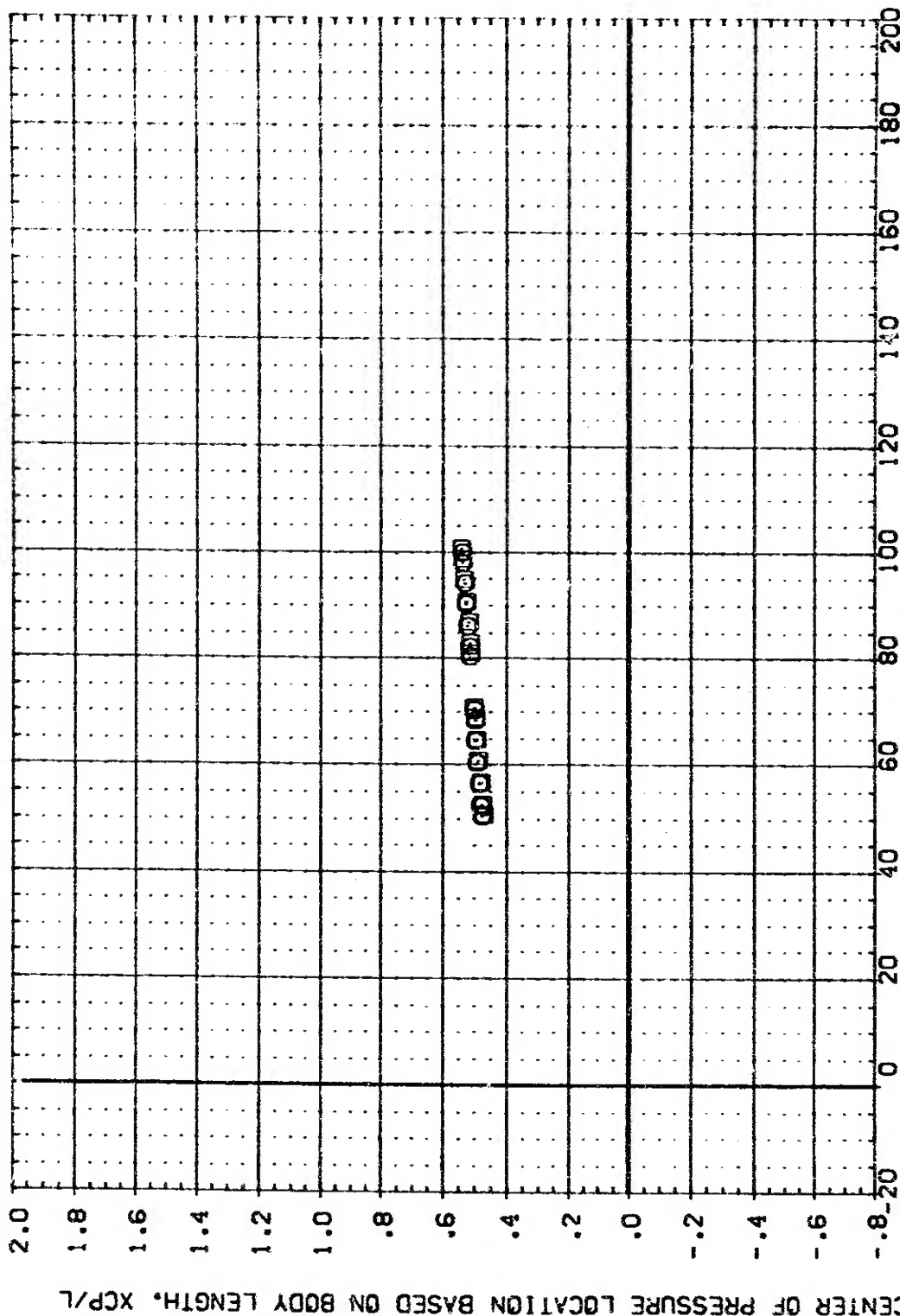
(A)MACH = 1.95

DATA SET SYMBOL: (B99K01) (B99K02) ☐ ☐

CONFIGURATION DESCRIPTION: MSFC 593 (TAIF) EXTERNAL TANK 12; SIDE MOUNTED
MSFC 593 (TAIF) EXTERNAL TANK 12; TAIL MOUNTED


PHI: .000

REFERENCE INFORMATION:
SREF: .7420 IN.
LREF: .9720 IN.
BREF: .9720 IN.
XMRP: 3.7590 IN.
YMRP: .0000 IN.
ZMRP: .0000 IN.
SCALE: .0030



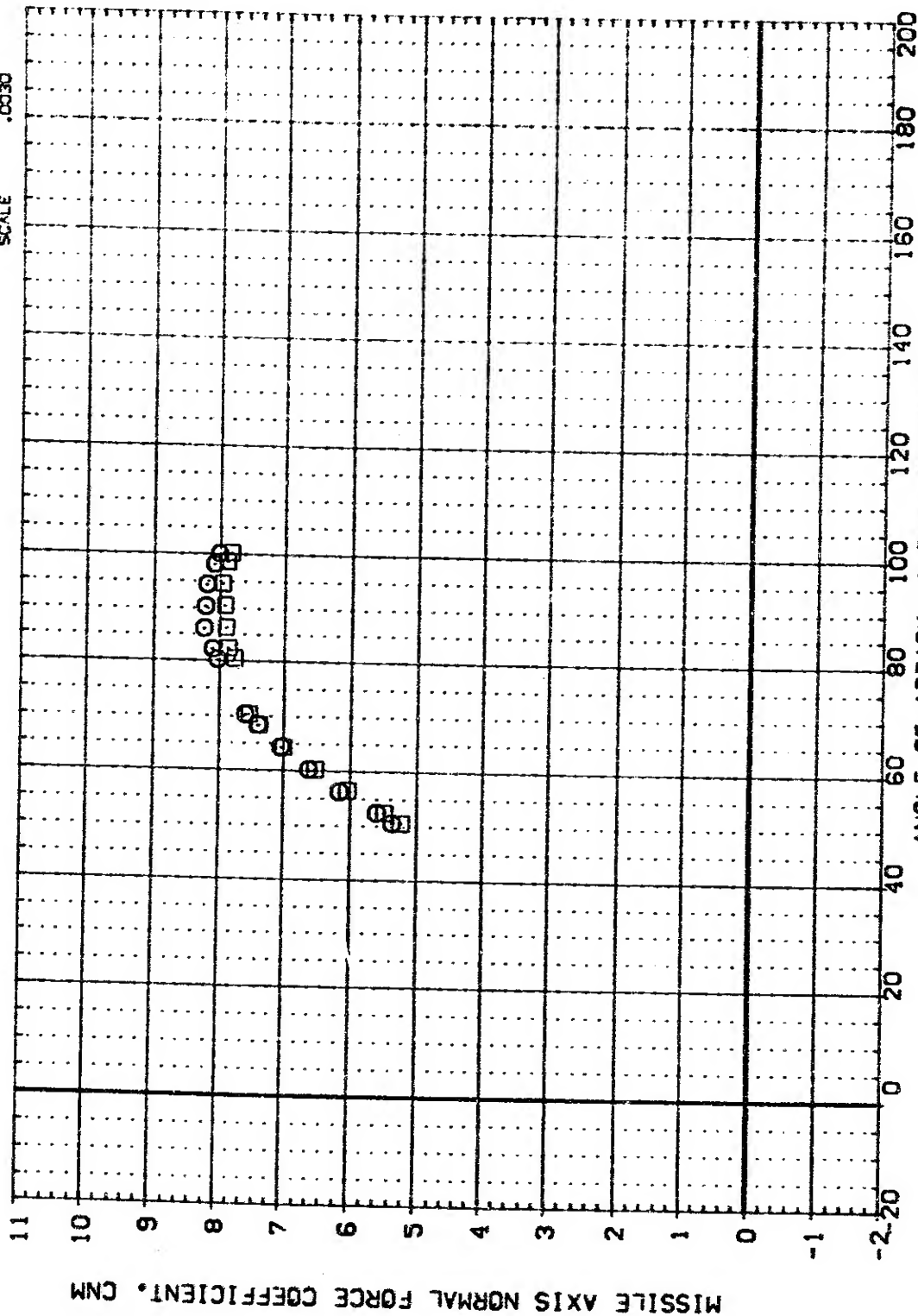
COMPARISON OF MOUNTING ARRANGEMENTS OF TANKS WITHOUT PROTUBERANCES

(B)MACH = 3.48

DATA SET SYMBOL:  CONFIGURATION DESCRIPTION:
 MSFC 583 (TAIF) EXTERNAL TANK T2: SIDE MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T2: TAIL MOUNTED

PHI
 .000
 .000

REFERENCE INFORMATION
 SREF .7420 50. IN.
 LREF .5720 IN.
 BREF .5720 IN.
 XMRP 3.2590 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0030





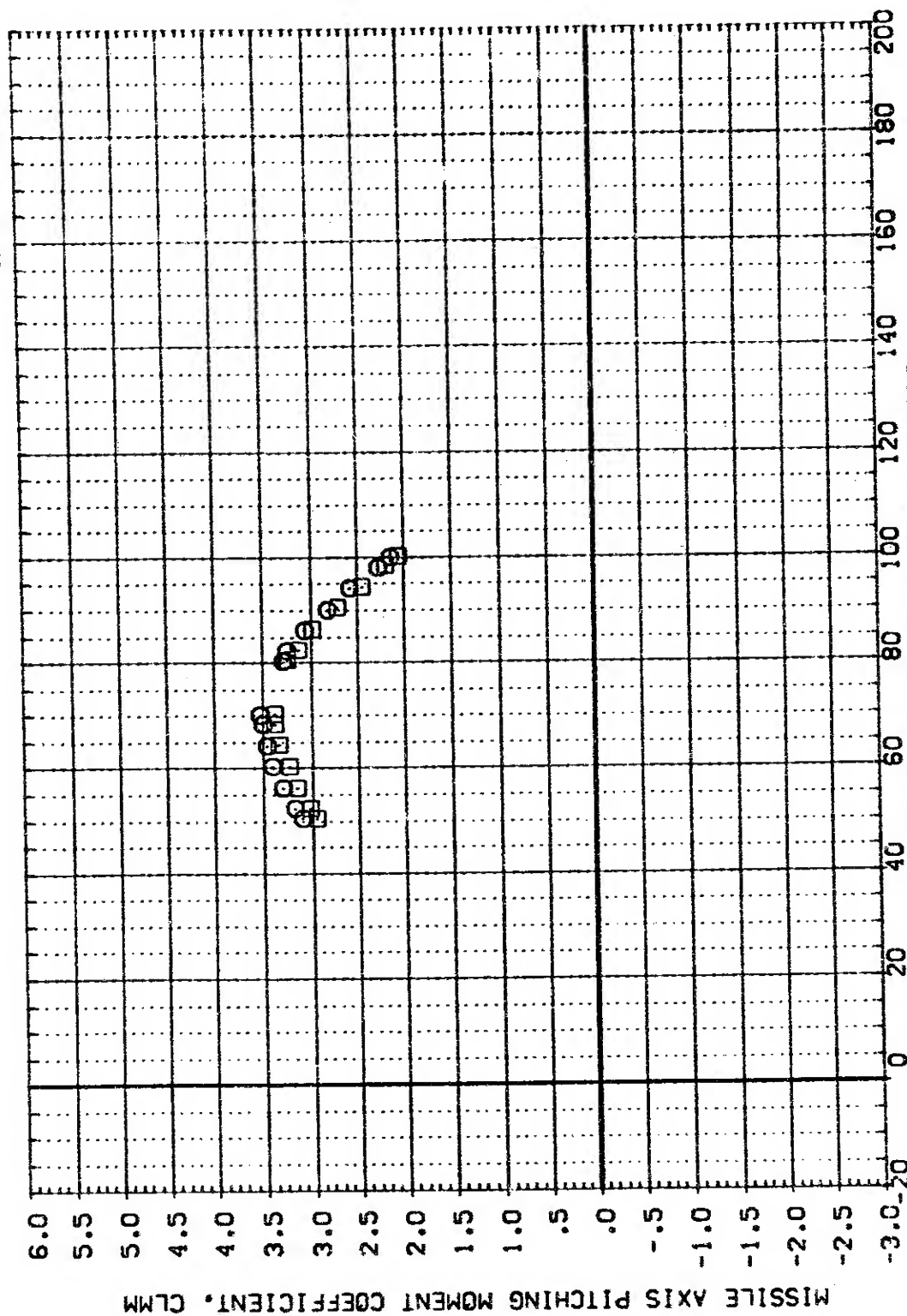
COMPARISON OF MOUNTING ARRANGEMENTS OF TANKS WITHOUT PROTUBERANCES

(A)MACH = 4.96

REFERENCE INFORMATION
 SREF .7420 IN.
 LREF .9720 IN.
 BREF .5720 IN.
 XMRP 3.2590 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0030


PHI .000
 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (C95X01)  MSFC S83 (TAIF) EXTERNAL TANK T2; SIDE MOUNTED
 (C95X02)  MSFC S83 (TAIF) EXTERNAL TANK T2; TAIL MOUNTED



COMPARISON OF MOUNTING ARRANGEMENTS OF TANKS WITHOUT PROTUBERANCES

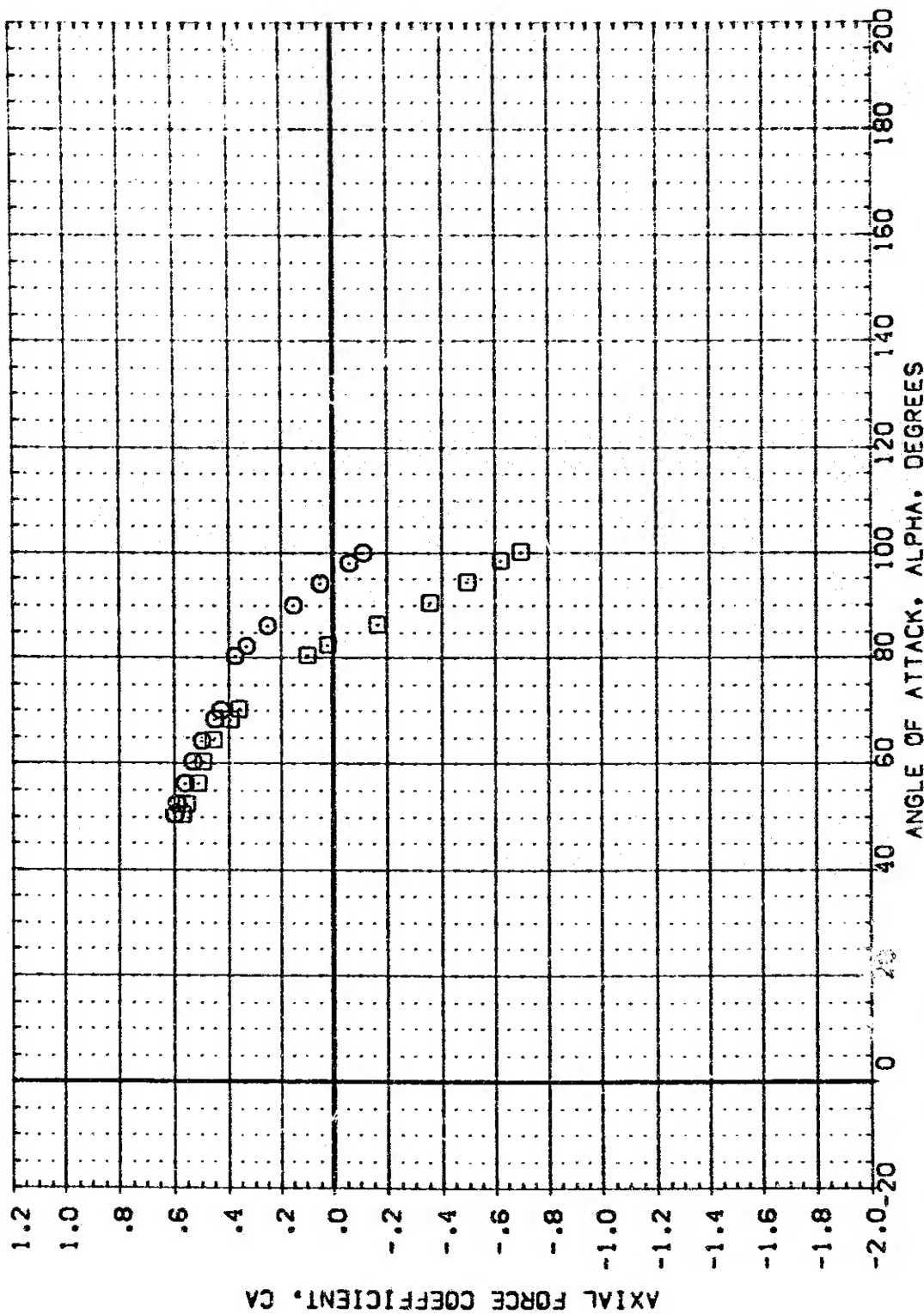
(A)MACH = 4.96

DATA SET SYMBOL: (C99K01) (C99K02)  MSFC 583 (TAIF) EXTERNAL TANK T2, SIDE MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK T2, TAIL MOUNTED

PHI

.000
.000

REFERENCE INFORMATION
SREF .7420 50. IN
LREF .9720 IN.
BREF .9720 IN.
XMRP 3.2590 IN.
YMRP .0030 IN.
ZMRP .0030 IN.
SCALE .0030



COMPARISON OF MOUNTING ARRANGEMENTS OF TANKS WITHOUT PROTUBERANCES

(A)MACH = 4.96

PAGE 60



DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI

(C59K01) MSFC 583 (TAIF) EXTERNAL TANK 12, SIDE MOUNTED .000

(C59K02) MSFC 583 (TAIF) EXTERNAL TANK 12, TAIL MOUNTED .000

REFERENCE INFORMATION

SREF .7420 SQ. IN

LREF .9720 IN.

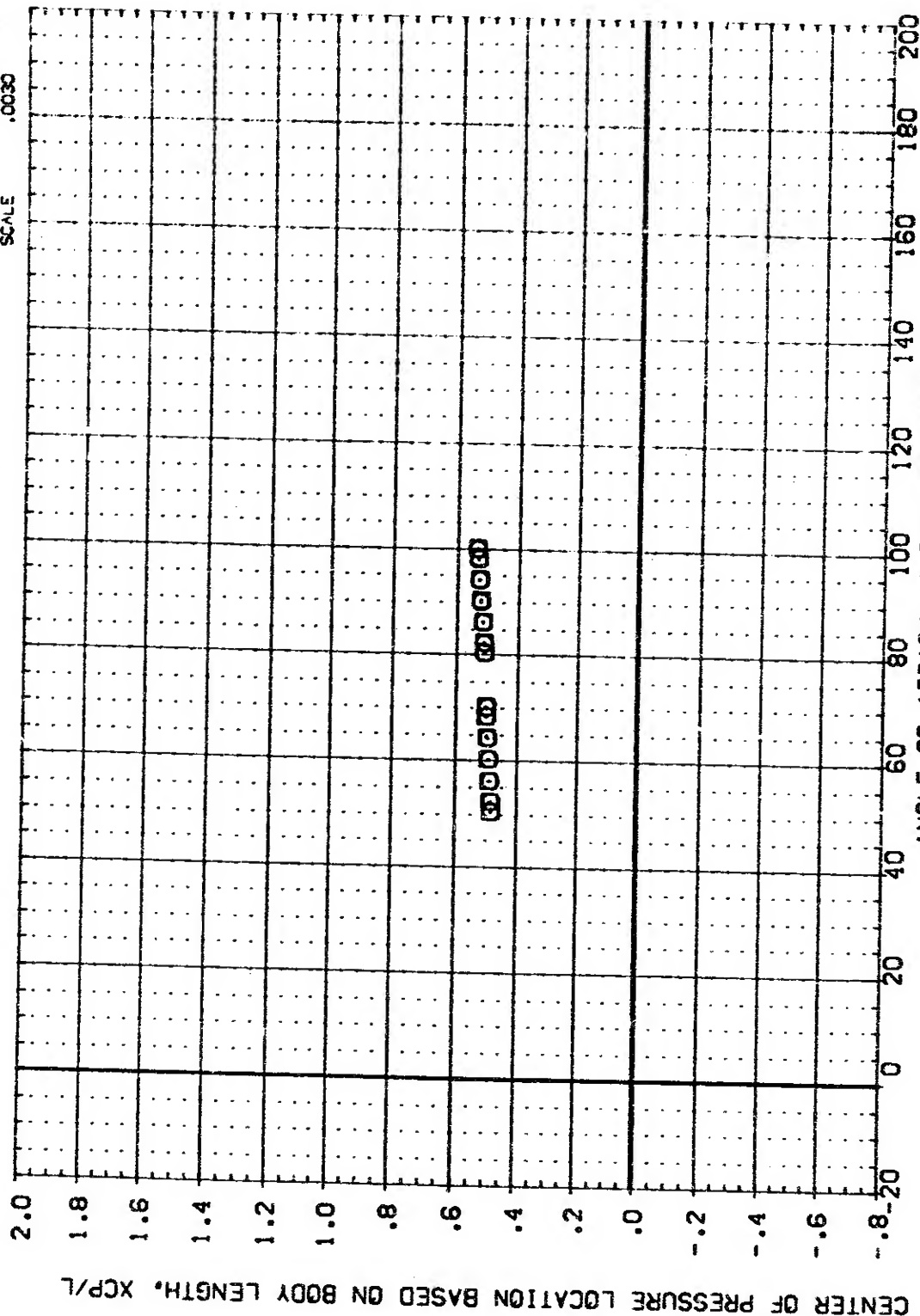
BREF .5720 IN.

XMRP 3.2500 IN.

YMRP .0000 IN.

ZMRP .0000 IN.

SCALE .0030



COMPARISON OF MOUNTING ARRANGEMENTS OF TANKS WITHOUT PROTUBERANCES

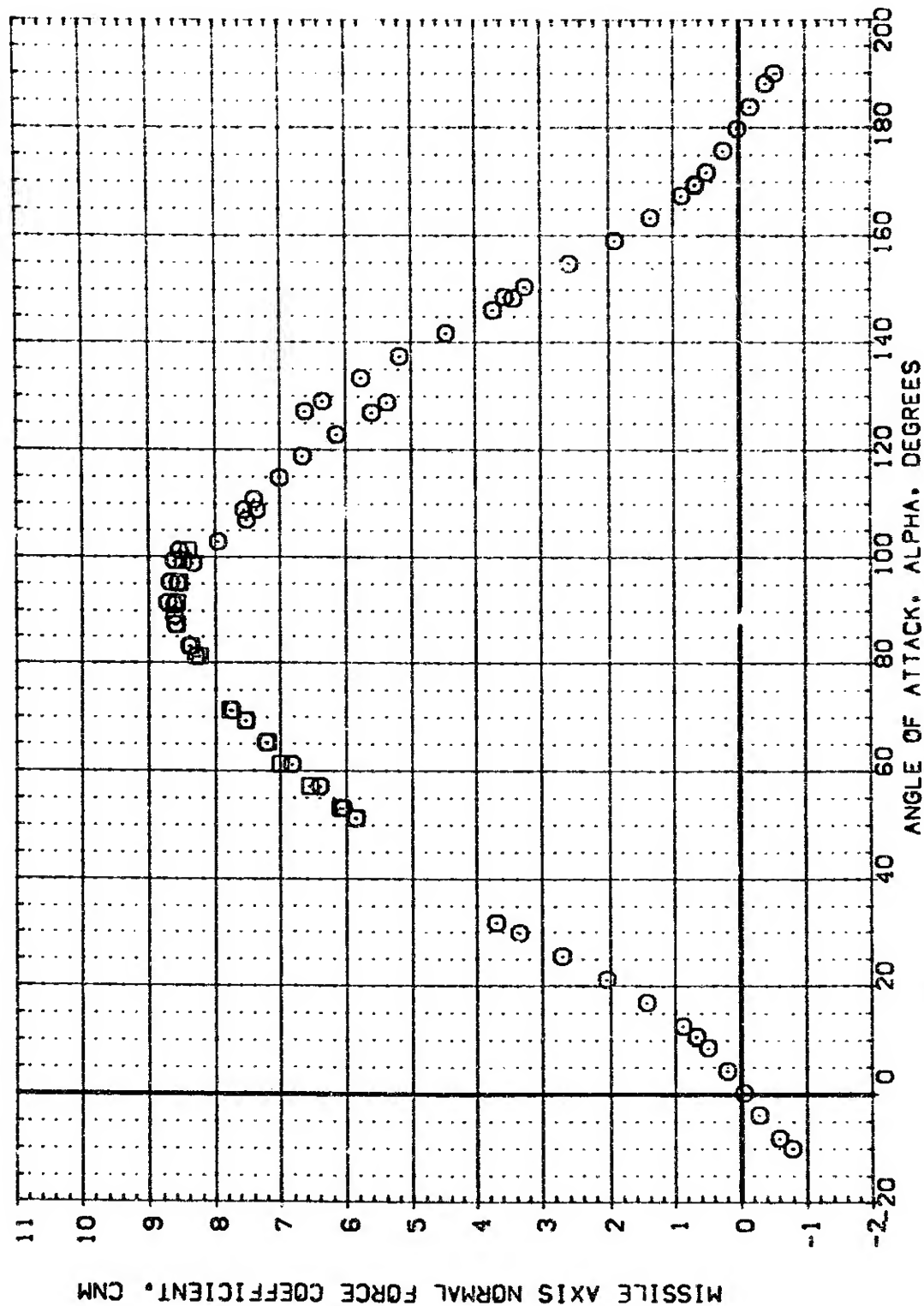
(M)MACH = 4.96

DATA SET SYMBOL: [ASSA01] [ASSA02] [ASSA03] [ASSA05]

CONFIGURATION DESCRIPTION: MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T2: TAIL MOUNTED
 DATA NOT AVAILABLE

PHI: .000
 .000
 .000

REFERENCE INFORMATION: SREF: 7420 SQ: IN
 LREF: .9720 IN: IN:
 BREF: .9720 IN: IN:
 XMRP: 3.2590 IN: IN:
 YMRP: .0000 IN: IN:
 ZMRP: .0000 IN: IN:
 SCALE: .0030

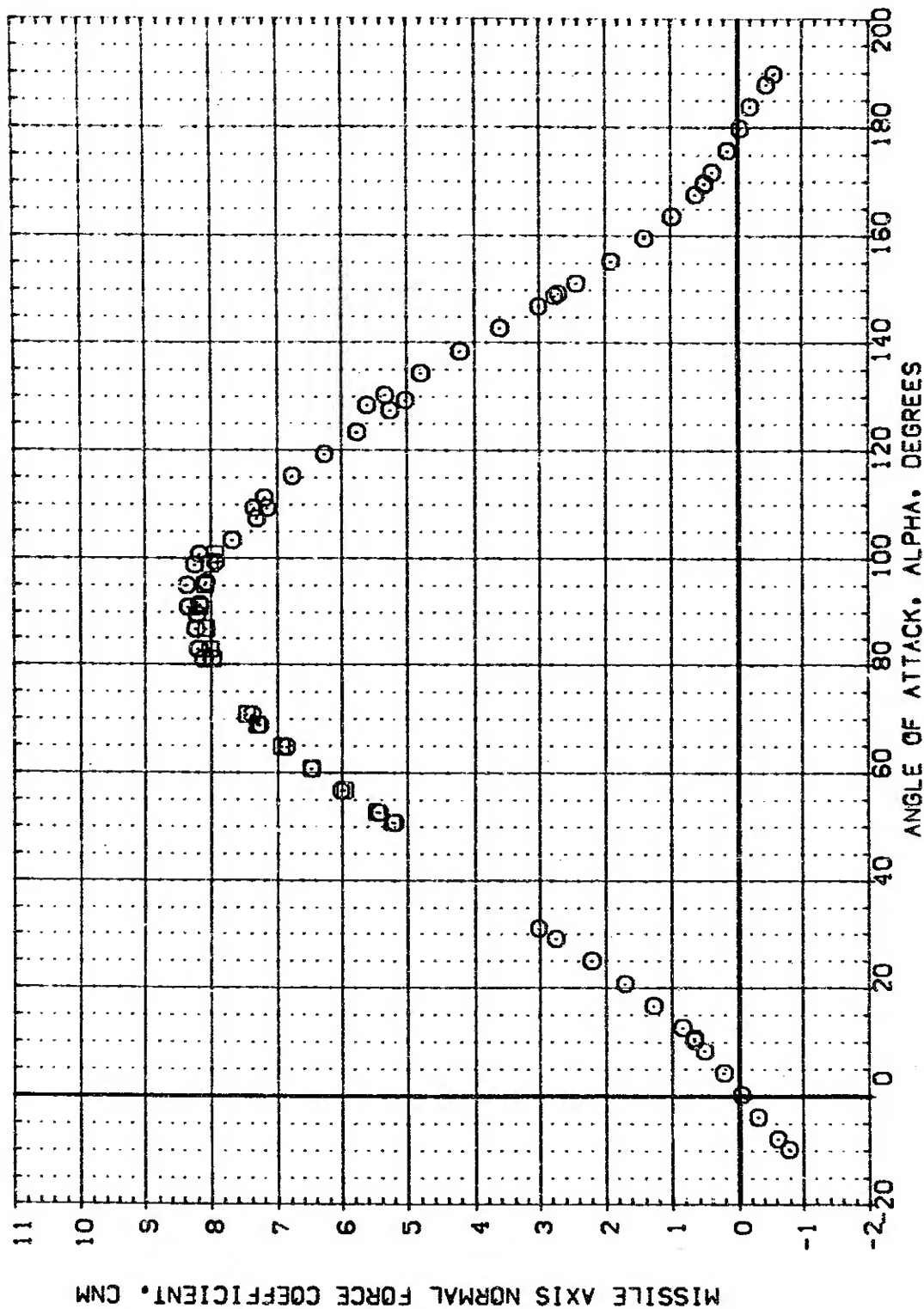


EFFECT OF PROTUBERANCES

(A)MACH = 1.96

DATA SET SYMBOL CONFIGURATION DESCRIPTION PHI REFERENCE INFORMATION

(A99A01)	MSFC 583 (TAIL) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF .7420 50. IN
(A99A02)	MSFC 583 (TAIL) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .9720 IN.
(A99A03)	MSFC 583 (TAIL) EXTERNAL TANK T2: TAIL MOUNTED	.000	BREF .9720 IN.
(A99A05)	DATA NOT AVAILABLE	.000	XMRP 3.2560 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



EFFECT OF PROTUBERANCES

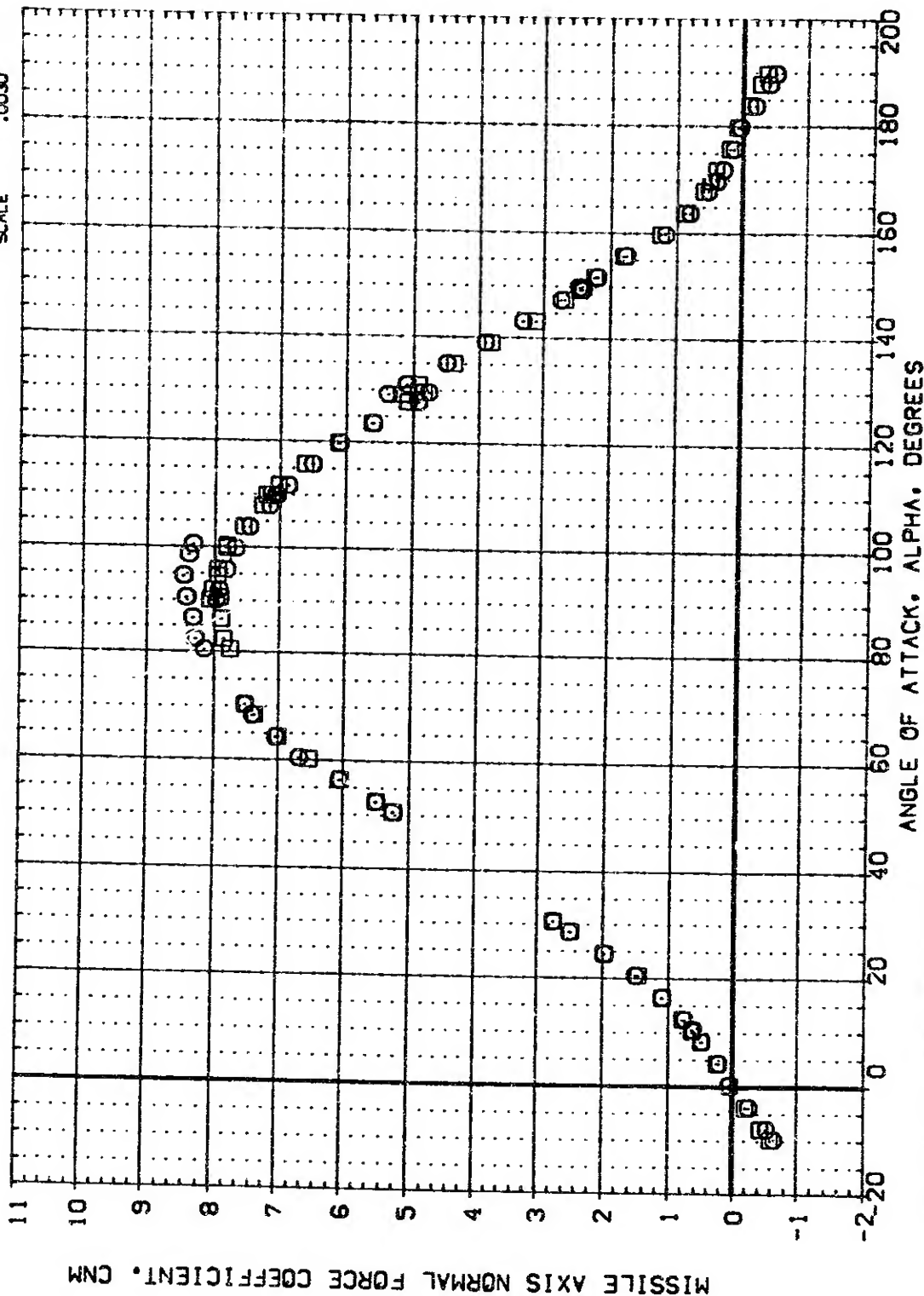
(B)MACH = 3.48

DATA SET SYMBOL: (A99A01) (A99A02) (A99K02) (A99K05)

CONFIGURATION DESCRIPTION: MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T2: TAIL MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T2: TAIL/NOSE MTD

PHI: .000
 .000
 .000

REFERENCE INFORMATION: SREF .7420 SQ. IN
 LREF .9720 IN.
 BREF .9720 IN.
 XMRP 3.2590 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0030



EFFECT OF PROTUBERANCES

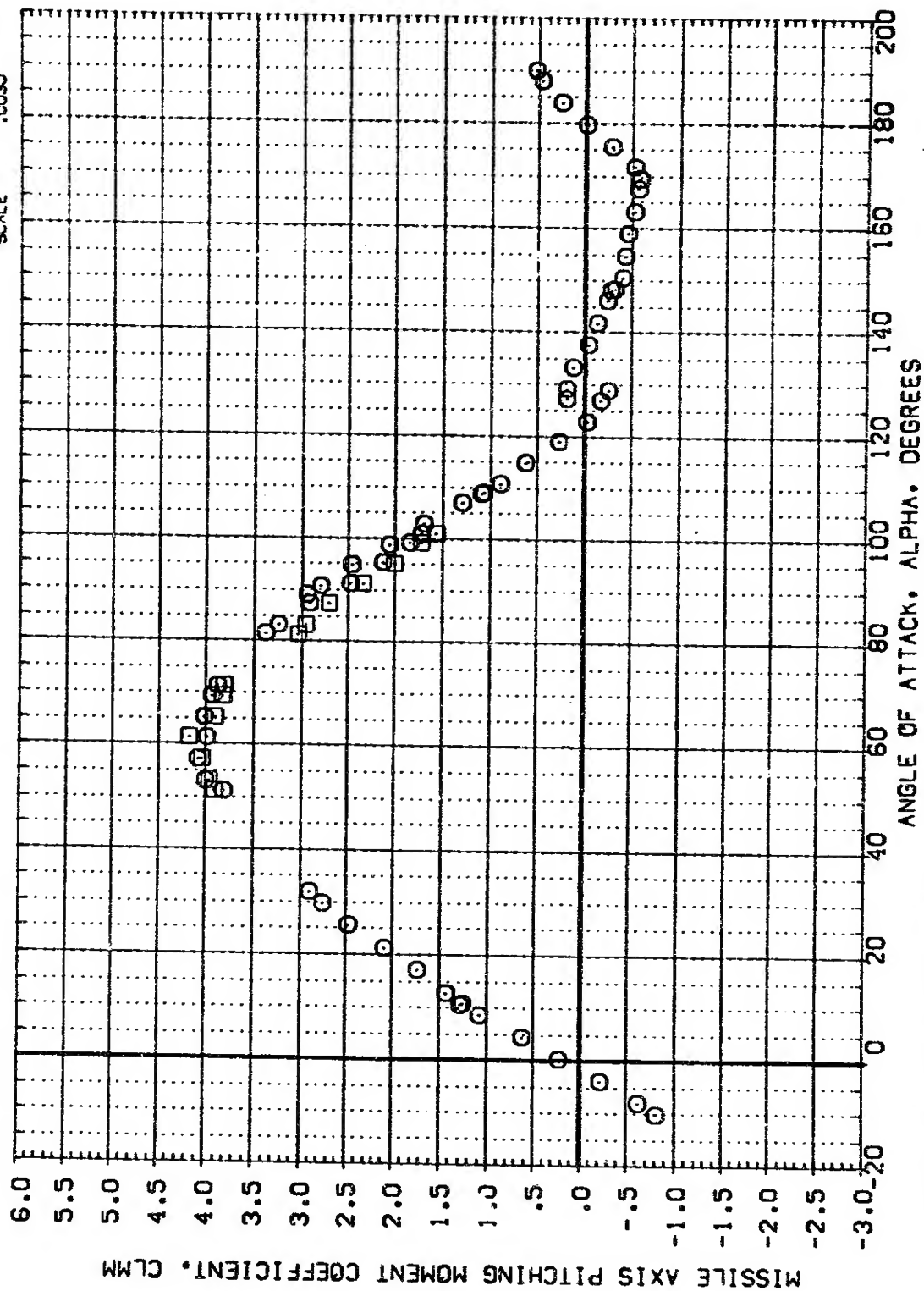
(C)MACH = 4.96

DATA SET SYMBOL: (A99A01) (A99A02) (A99K02) (A99K05)

CONFIGURATION DESCRIPTION: MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T2: TAIL MOUNTED
 DATA NOT AVAILABLE

PHI: .000
 .000
 .000
 .000

REFERENCE INFORMATION: SREF .7420 SQ. IN
 LREF .9720 IN.
 BREF .9720 IN.
 XMRP 3.2590 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE .0030



EFFECT OF PROTUBERANCES

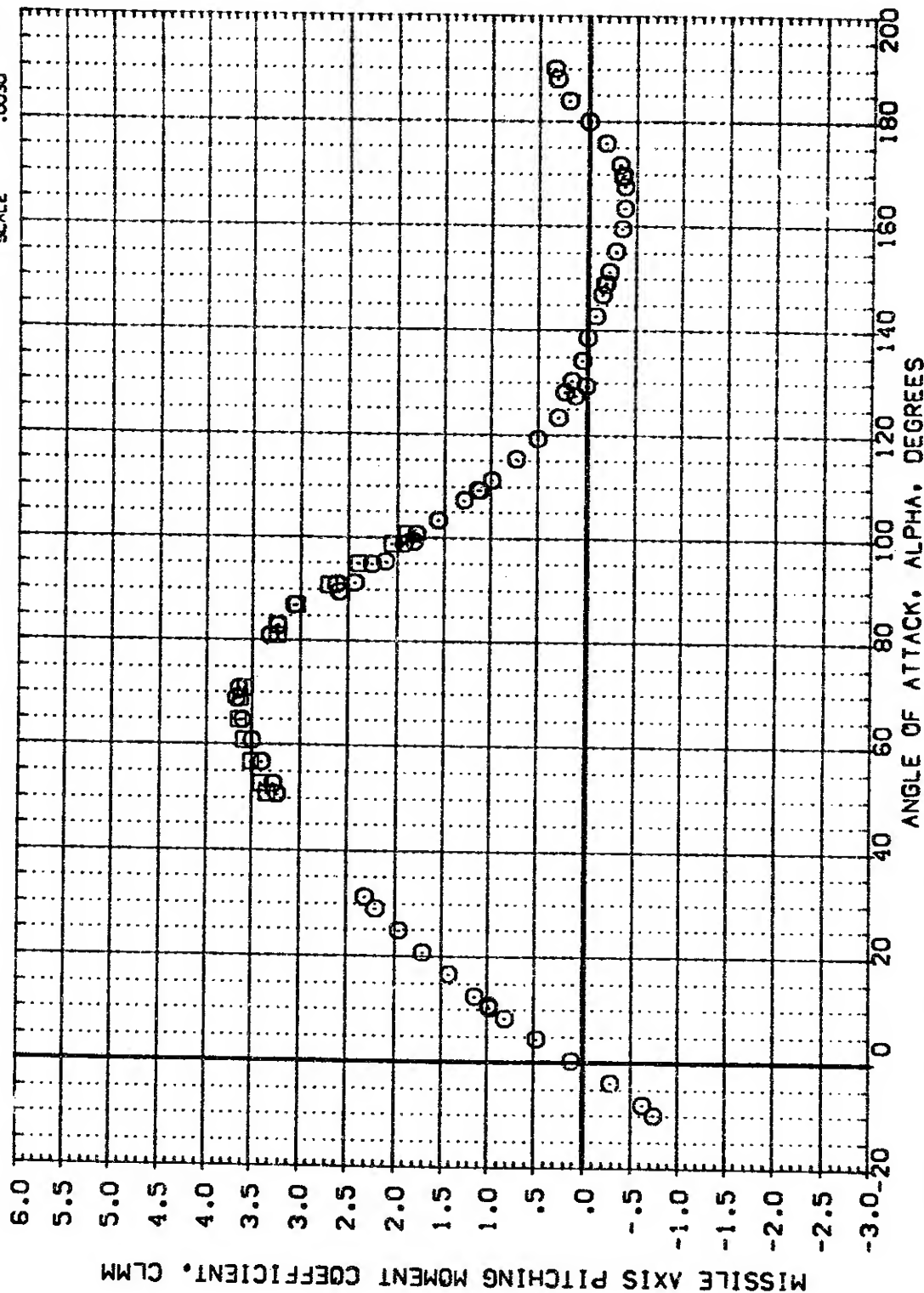
(A)MACH = 1.96

DATA SET SYMBOL
(A99A01)
(A99A02)
(A99A03)
(A99A05)

CONFIGURATION DESCRIPTION
MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED
MSFC 583 (TAIF) EXTERNAL TANK T2: TAIL MOUNTED
DATA NOT AVAILABLE

PHI
.000
.000
.000
.000

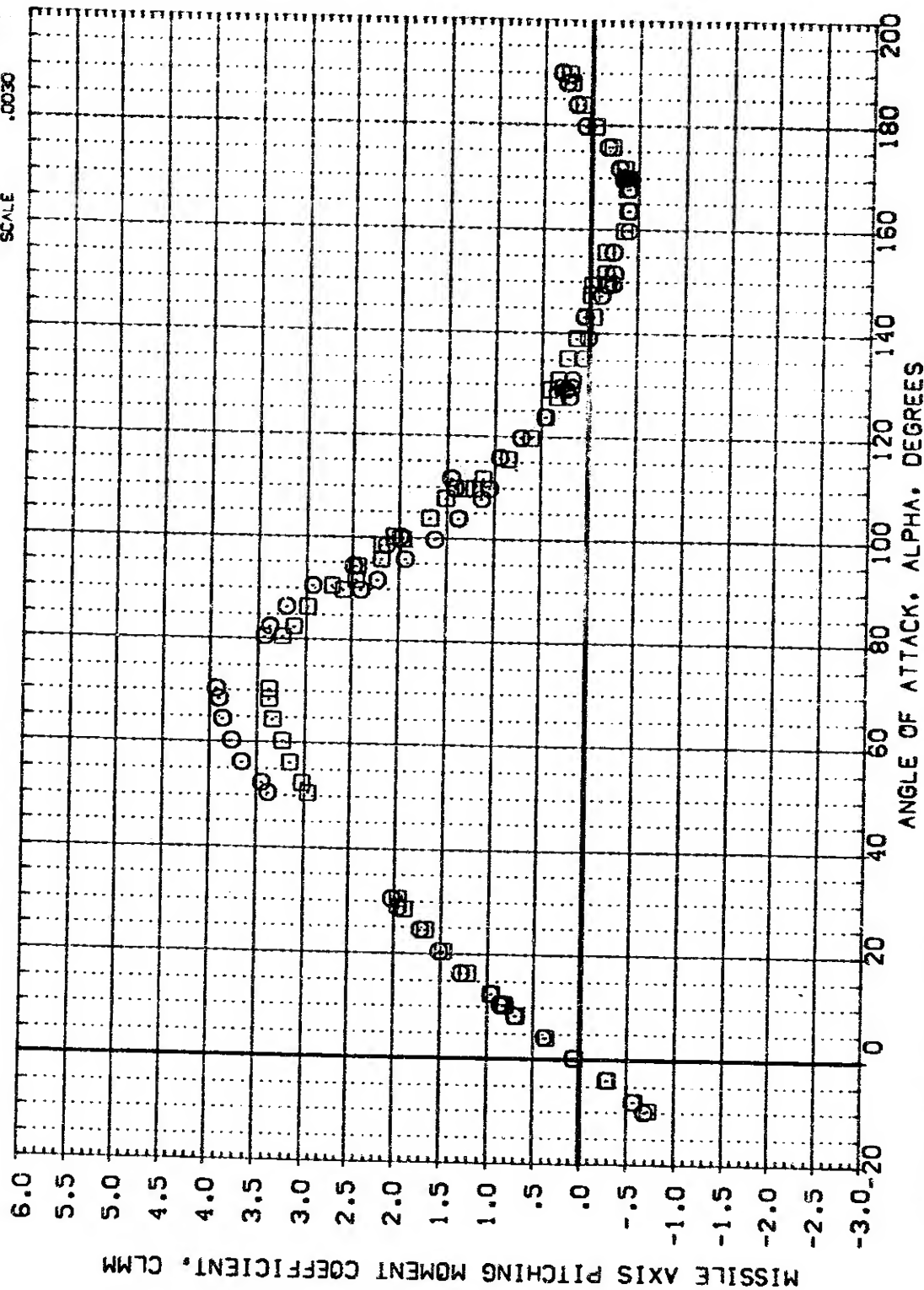
REFERENCE INFORMATION
SREF .7420 50. IN
LREF .9720 IN.
BREF .9720 IN.
XMRP 3.2590 IN.
YMRP .0000 IN.
ZMRP .0000 IN.
SCALE .0030



EFFECT OF PROTUBERANCES

(B)MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	PHI	REFERENCE INFORMATION
[ASSA01]	MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED	.000	SREF 7420 SQ. IN
[ASSA02]	MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED	.000	LREF .9720 IN.
[ASSK03]	MSFC 583 (TAIF) EXTERNAL TANK T2: TAIL MOUNTED	.000	BREF .9720 IN.
[ASSK05]	MSFC 583 (TAIF) EXTERNAL TANK T2: TAIL/NOSE MTD	.000	XMRP 3.2590 IN.
			YMRP .0000 IN.
			ZMRP .0000 IN.
			SCALE .0030



EFFECT OF PROTUBERANCES

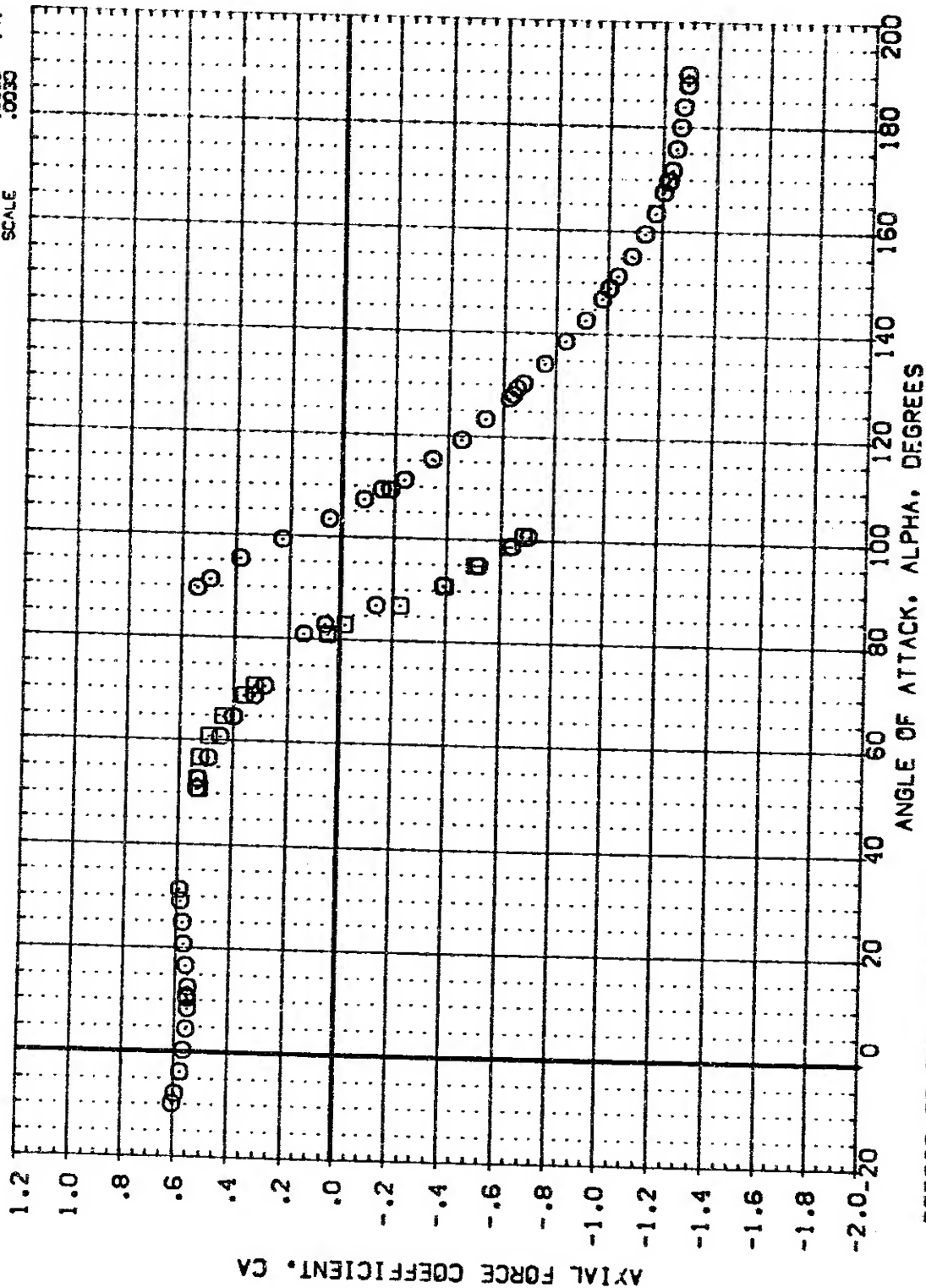
(C)MACH = 4.96

DATA SET SYMBOL: (ASSA01) (ASSA02) (ASSA03) (ASSA04) (ASSA05)

CONFIGURATION DESCRIPTION: MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T2: TAIL MOUNTED DATA NOT AVAILABLE

PHI: .000 .000 .000 .000 .000

REFERENCE INFORMATION: SREF: .7420 SQ. IN. LREF: .9720 IN. BREF: .9720 IN. XMRP: 3.2590 IN. YMRP: .0000 IN. ZMRP: .0000 IN. SCALE: .0033



EFFECT OF PROTUBERANCES

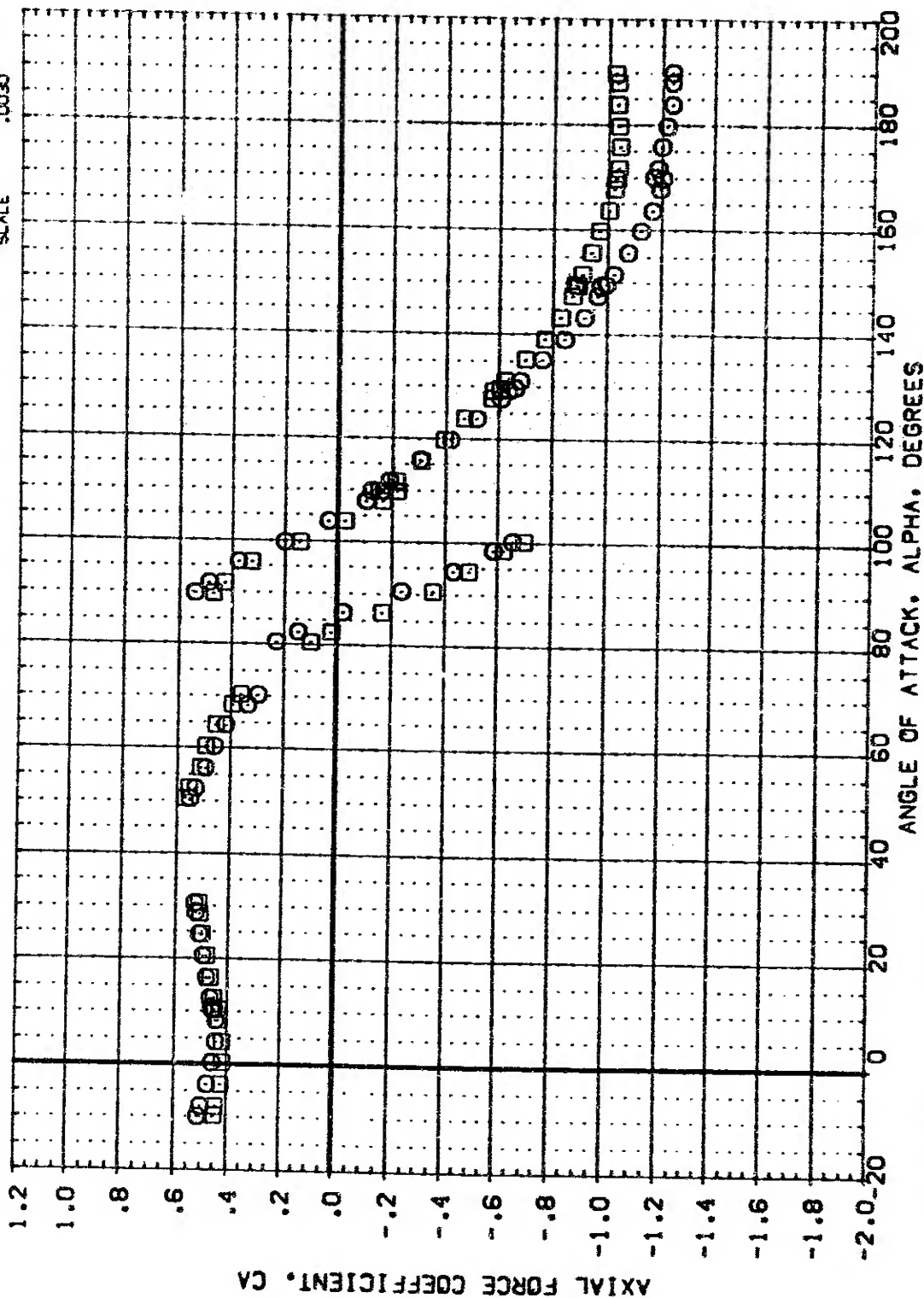
(B)MACH = 3.48

DATA SET SYMBOL: (A99A01) (A99A02) (A99A03) (A99A05)

CONFIGURATION DESCRIPTION: MSFC 583 (TAIF) EXTERNAL TANK T1; TAIL MOUNTED; MSFC 583 (TAIF) EXTERNAL TANK T1; NOSE MOUNTED; MSFC 583 (TAIF) EXTERNAL TANK T2; TAIL MOUNTED; MSFC 583 (TAIF) EXTERNAL TANK T2; TAIL/NOSE MTD

PHI: .000 .000 .000 .000

REFERENCE INFORMATION: SREF 7420 SO: IN; LREF .9720 IN: IN; XMRP .9720 IN: IN; YMRP 3.2590 IN: IN; ZMRP .0000 IN: IN; SCALE .0030



EFFECT OF PROTUBERANCES

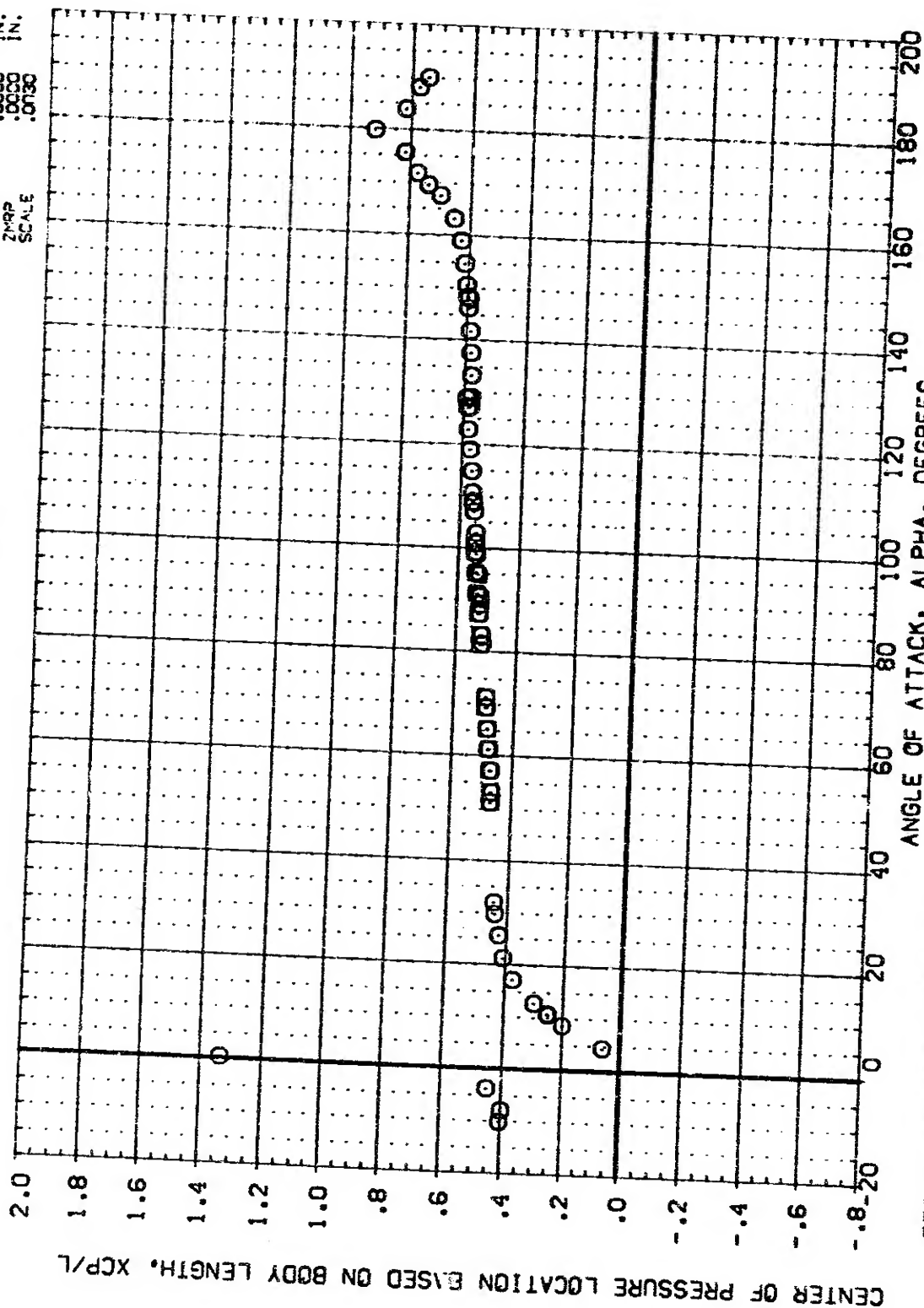
(CJ)MACH = 4.96

DATA SET SYMBOL: (A99A01) (A99A02) (A99A03) (A99A05)

CONFIGURATION DESCRIPTION: MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED MSFC 583 (TAIF) EXTERNAL TANK T2: TAIL MOUNTED DATA NOT AVAILABLE

PHI: .000 .000 .000 .000

REFERENCE INFORMATION: SREF .7420 SQ. IN LREF .9720 IN. BREF .9720 IN. XMRP 3.2590 IN. YMRP .0000 IN. ZMRP .0000 IN. SCALE .0730



EFFECT OF PROTUBERANCES

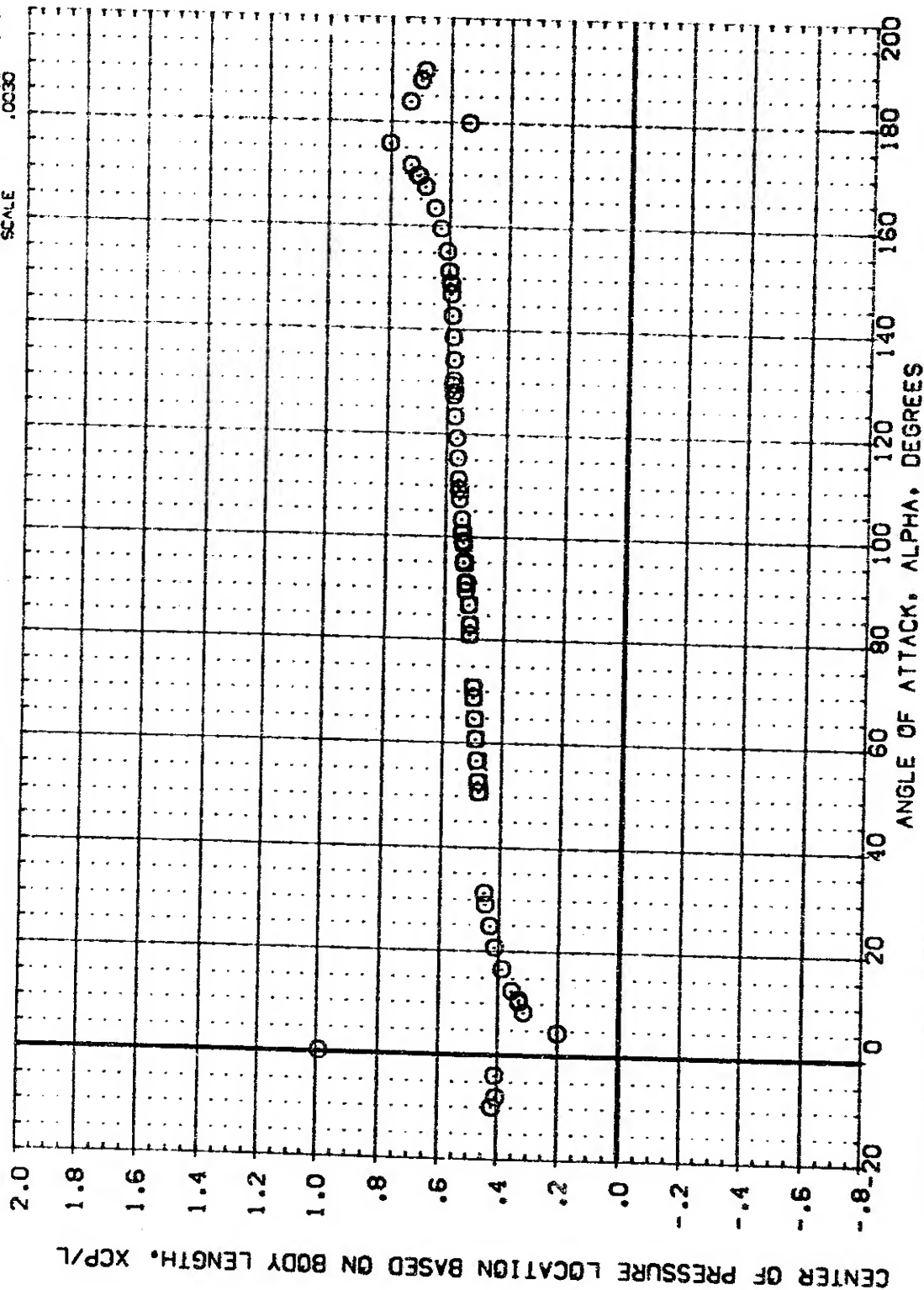
(A)MACH = 1.96

DATA SET SYMBOL
 (A99A01)
 (A99A02)
 (A99A03)
 (A99A05)

CONFIGURATION DESCRIPTION
 MSFC 583 (TAIF) EXTERNAL TANK T1: TAIL MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T1: NOSE MOUNTED
 MSFC 583 (TAIF) EXTERNAL TANK T2: TAIL MOUNTED
 DATA NOT AVAILABLE

PHI
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF .7420 SQ. IN
 LREF .9720 IN.
 BREF .9720 IN.
 XMRP 3.2550 N.
 YMRP .0000 N.
 ZMRP .0000 N.
 SCALE .0030



EFFECT OF PROTUBERANCES

(B)MACH = 3.48

APPENDIX

TABULATED SOURCE DATA

Plotted data listings are available on request from
Data Management Services.

DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 503

PAGE 1

(R990001) (20 MAR 74)

REFERENCE DATA

SDET = .7420 IN. IN. XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 SDET = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 133/ 0 RN/L = 6.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CYM	CYNM	CBL	CA	CAB	KCP/L	CPB1	CPC
1.958	-10.070	-.77740	-.81090	-.00260	-.01480	.00300	.76010	.10140	.40130	.00000	.69860
1.956	-8.080	-.59100	-.62690	-.00160	-.01350	.00130	.74240	.09650	.39820	.00000	.64390
1.958	-3.920	-.28380	-.22140	-.01040	-.01540	-.00390	.72960	.08580	.44780	.00000	.64370
1.956	.200	-.05010	.21640	-.01130	-.02290	-.00140	.72030	.07530	1.33190	.00000	.64490
1.958	4.370	.20880	.62570	-.01680	-.01820	.00060	.69610	.07850	.06210	.00000	.61760
1.956	6.500	.49120	1.08690	-.01910	-.02710	.00110	.71470	.08710	.19810	.00000	.62760
1.958	10.490	.66750	1.28620	-.02180	-.02710	.00460	.72200	.09690	.24780	.00000	.62510
1.956	.210	-.03590	.20650	-.01640	-.02710	-.00060	.68560	.08500	1.58020	.00000	.60560
GRADIENT		.03967	.10218	-.00077	-.00033	.00054	-.00404	-.00088	-.04705	.00000	-.00316

RUN NO. 1/ 0 RN/L = 6.36 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CYM	CYNM	CBL	CA	CAB	KCP/L	CPB1	CPC
3.479	-9.940	-.78360	-.74680	-.00150	.00600	-.00160	.60350	.04290	.41690	.00000	.56060
3.479	-8.010	-.60700	-.62260	.00450	.00370	.00070	.59960	.04210	.40430	.00000	.55350
3.479	-3.890	-.29420	-.29350	.00600	-.00010	-.01030	.57470	.04140	.40910	.00000	.53330
3.479	.190	-.04690	.11070	-.00810	-.00470	.00000	.56460	.04000	.98230	.00000	.52460
3.479	4.310	.21790	.48110	-.00960	-.00960	-.00320	.55500	.04060	.19890	.00000	.51440
3.479	6.390	.52490	.81830	-.01320	-.01730	-.00400	.55200	.04250	.31170	.00000	.50940
3.479	10.330	.67220	.97960	-.01240	-.01610	-.00140	.55290	.04370	.32930	.00000	.50920
3.479	.190	-.03320	.11170	.00200	.00150	.00000	.56230	.04020	.94690	.00000	.52270
GRADIENT		.06245	.09446	-.00190	-.00116	.00086	-.00240	-.00010	-.02591	.00000	-.00231

RUN NO. 4/ 0 RN/L = 5.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CYM	CYNM	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	-9.810	-.64840	-.69410	.01420	.02320	-.00030	.50710	-.00090	.39650	.00000	.50810
4.960	-7.890	-.52490	-.56950	.01350	.04960	.00760	.49760	.01230	.39400	.00000	.48520
4.960	-3.830	-.26460	-.28350	.01610	.02010	-.00070	.47380	.01410	.39630	.00000	.45960
4.960	.200	.05160	.03460	-.01640	.01170	-.00030	.45790	.01060	.39860	.00000	.44700
4.960	4.250	.20360	.37990	.00650	.00280	-.00220	.44280	.01250	.25870	.00000	.43020
4.960	6.270	.47860	.70180	.00810	.01180	-.00170	.44320	.01230	.32790	.00000	.43080
4.960	10.190	.61620	.83730	.00320	.01420	.00430	.44670	.01410	.34640	.00000	.43260
4.960	.190	-.03000	.06130	.00000	.00780	-.00130	.45590	.01520	.93670	.00000	.44070
GRADIENT		.03795	.08210	-.00116	-.00214	-.00019	-.00384	-.00020	-.01704	.00000	-.00364

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99002) (30 MAR 74)

REFERENCE DATA

GREF = .7420 84. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 134/ 0 RN/L = 6.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYM	CYNM	CBL	CA	CAB	XCP/L	CP81	CPC
1.963	10.770	.66360	1.26440	.01280	-.00090	.00040	.70960	.09840	.23260	.00000	.61110
1.963	12.740	.87950	1.43640	.01750	.00120	.00550	.72040	.10650	.29840	.00000	.61410
1.963	16.990	1.45190	1.72840	.03570	-.02620	.00950	.73180	.12060	.37570	.00000	.61110
1.963	21.250	2.05110	2.06410	.05220	-.05470	.00810	.74500	.12890	.40600	.00000	.61610
1.963	25.530	2.75670	2.46680	.02590	-.02700	.01320	.75410	.13240	.42410	.00000	.62170
1.963	29.760	3.33200	2.75150	.02640	-.03630	.00750	.72700	.13350	.43990	.00000	.59360
1.963	31.800	3.69940	2.89850	.00150	-.03910	.00650	.69780	.13150	.44640	.00000	.56610
1.963	21.220	2.03560	2.08070	.05120	-.04140	.01310	.73410	.12700	.40520	.00000	.60710
GRADIENT		.14486	.07830	-.00027	-.00180	.00024	.00006	.00156	.00856	.00000	-.00150

RUN NO. 2/ 0 RN/L = 6.34 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYM	CYNM	CBL	CA	CAB	XCP/L	CP81	CPC
3.479	10.630	.67250	.99040	.00600	.01700	-.00190	.55560	.04090	.32660	.00000	.51460
3.479	12.560	.85580	1.13700	.00940	.00880	.00490	.53270	.04110	.35170	.00000	.51160
3.479	16.700	1.26480	1.41330	.01430	.01010	-.00030	.55930	.04280	.38840	.00000	.51630
3.479	20.820	1.75530	1.69570	.01160	-.00120	.00380	.57030	.04220	.40970	.00000	.52800
3.479	24.970	2.21190	1.95460	-.00280	.00430	.00230	.57510	.04100	.42900	.00000	.53400
3.479	29.090	2.74830	2.19480	-.00490	-.01060	.00120	.58640	.04160	.44370	.00000	.54470
3.479	31.060	3.02720	2.30520	-.00600	-.02390	-.00230	.58960	.04220	.45020	.00000	.54730
3.479	20.810	1.68710	1.69400	.01160	.00450	-.00080	.56730	.04380	.40800	.00000	.52350
GRADIENT		.11492	.06432	-.00082	-.00159	-.00006	.00182	.00000	.00377	.00000	.00179

RUN NO. 3/ 0 RN/L = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYM	CYNM	BL	CA	CAB	XCP/L	CP81	CPC
4.960	10.490	.63040	.87270	.00970	.04530	.01240	.46280	.01370	.34200	.00000	.44910
4.960	12.390	.75340	.95990	.00980	.02040	-.00130	.46320	.01110	.36110	.00000	.45400
4.960	16.430	1.09650	1.27900	.00590	.01790	-.01900	.47840	.00800	.37990	.00000	.47040
4.960	20.500	1.50630	1.51700	-.00770	.04880	.05960	.49660	.00420	.40750	.00000	.49230
4.960	24.580	1.96940	1.71460	.01170	.03350	.01650	.50740	.00570	.43120	.00000	.50160
4.960	28.620	2.50110	1.96100	.01450	.01590	-.00200	.52160	.00950	.44630	.00000	.51210
4.960	30.550	2.76010	2.02790	.01620	.01610	.00370	.52650	.01110	.45480	.00000	.51530
4.960	20.500	1.49320	1.50720	-.01410	.02490	-.02340	.49380	.01230	.40710	.00000	.48150
GRADIENT		.10683	.05870	.00035	-.00073	.00014	.00332	-.00013	.00555	.00000	.00345



DATE 03 AUG 74

TABULATED SOURCE DATA, NSFC TWT 503

PAGE 3

NSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99003) (20 MAR 74)

REFERENCE DATA

REF = .7420 IN. IN. XGRP = 3.2590 IN.
 LREF = .9720 IN. IN. YGRP = .0000 IN.
 BREF = .9720 IN. IN. ZGRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 97/ 0 RNL = 6.74 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYM	CYN	CBL	CA	CAB	KCP/L	CPB1	CPC
1.955	51.160	5.86730	3.80980	.08350	.04630	-.00160	.45770	.00000	.46970	.00000	.45770
1.955	53.120	6.04310	3.99940	.08270	.04560	.00000	.44530	.00000	.46750	.00000	.44530
1.955	57.170	6.40990	4.07910	.09810	.02230	.00100	.45030	.00000	.47190	.00000	.45030
1.955	61.240	6.82990	3.98330	.11310	.04770	.00470	.47310	.00000	.48110	.00000	.47310
1.955	65.320	7.22660	4.01510	.13040	.04110	.00210	.43080	.00000	.48590	.00000	.43080
1.955	69.310	7.52940	3.93540	.13210	.01730	.00250	.31910	.00000	.49170	.00000	.31910
1.955	71.230	7.75430	3.87800	.13340	.00310	.00880	.23450	.00000	.49560	.00000	.23450
1.955	61.200	6.73790	3.99180	.10780	.04020	.00250	.46860	.00000	.47950	.00000	.46860
GRADIENT		.09360	-.00024	.00283	-.00160	.00035	-.00013	.00000	.00140	.00000	-.00913

RUN NO. 95/ 0 RNL = 6.25 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYM	CYN	CBL	CA	CAB	KCP/L	CPB1	CPC
3.479	50.730	5.20520	3.23340	.05180	.02350	-.00240	.53350	.00000	.47450	.00000	.53350
3.479	52.650	5.44200	3.27290	.05070	.01820	-.01310	.52670	.00000	.47800	.00000	.52670
3.479	56.710	6.01230	3.39340	.06230	.02760	-.00970	.48990	.00000	.48440	.00000	.48990
3.479	60.770	6.47950	3.50290	.07290	.02270	-.01270	.44850	.00000	.48850	.00000	.44850
3.479	64.830	6.87690	3.61750	.08830	.02840	-.01770	.40010	.00000	.49110	.00000	.40010
3.479	68.890	7.27040	3.67750	.11070	.00610	-.01730	.32420	.00000	.49460	.00000	.32420
3.479	70.740	7.39410	3.65360	.10660	.00970	-.01650	.28350	.00000	.49660	.00000	.28350
3.479	60.760	6.51570	3.50480	.09100	.02450	-.04440	.45020	.00000	.48900	.00000	.45020
GRADIENT		.11045	.02302	.00313	-.00064	-.00057	-.01237	.00000	.00105	.00000	-.01237

RUN NO. 96/ 0 RNL = 4.87 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYM	CYN	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	50.390	5.24110	3.38850	.07390	-.01150	-.02410	.55070	.00000	.47020	.00000	.55070
4.960	52.300	5.48570	3.43650	.07740	-.01750	-.05940	.53250	.00000	.47300	.00000	.53250
4.960	56.360	6.05640	3.66330	.09230	-.01930	-.03400	.49560	.00000	.47740	.00000	.49560
4.960	60.370	6.68260	3.77990	.09120	-.00510	-.05800	.46090	.00000	.48420	.00000	.46090
4.960	64.410	7.04630	3.86690	.11590	-.01670	-.03960	.41610	.00000	.48710	.00000	.41610
4.960	68.390	7.41390	3.95140	.10790	-.01770	-.07320	.33240	.00000	.49100	.00000	.33240
4.960	70.280	7.52180	3.93810	.11900	-.02320	-.07700	.29510	.00000	.49150	.00000	.29510
4.960	60.350	6.59970	3.81260	.08980	-.03670	-.06660	.46010	.00000	.48210	.00000	.46010
GRADIENT		.11728	.02743	.00214	.00049	-.00183	-.01249	.00000	.00110	.00000	-.01249

REPRODUCIBILITY OF THE
 ORIGINAL PAGE IS POOR

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99004) (20 MAR 74)

REFERENCE DATA

SREF = .7420 SQ. IN. XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 98/ 0 RVL = 6.79 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	XCPL	CFBI	CPC
1.953	81.390	8.31060	3.38450	.11430	-.01740	.00010	-.17260	.00000	.51170	.00000	-.17260
1.953	83.290	8.40920	3.24590	.12010	-.02910	-.00400	-.23840	.00000	.51540	.00000	-.23840
1.953	87.300	8.61040	2.90710	.12350	-.03400	-.00170	-.35000	.00000	.52380	.00000	-.35000
1.953	91.270	8.72900	2.46370	.12060	-.00710	.00200	-.52060	.00000	.53340	.00000	-.52060
1.953	95.250	8.69970	2.12110	.13420	-.01610	.00330	-.64200	.00000	.54010	.00000	-.64200
1.953	99.180	8.63350	1.84200	.13270	.00550	.00590	-.73890	.00000	.54540	.00000	-.73890
1.953	101.050	8.53370	1.71850	.12460	.00990	.00990	-.78180	.00000	.54760	.00000	-.78180
1.953	91.230	8.67970	2.43020	.12220	-.00750	.00200	-.53960	.00000	.53380	.00000	-.53960
GRADIENT		.01294	-.08732	.00070	.00214	.00029	-.03169	.00000	.00187	.00000	-.03169

RUN NO. 94/ 0 RVL = 6.25 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	XCPL	CFBI	CPC
3.479	80.970	8.10740	3.31510	.08380	-.00490	-.01520	.13870	.00000	.51140	.00000	.13870
3.479	82.870	8.18830	3.23990	.08220	.00640	-.01370	.05880	.00000	.51370	.00000	.05880
3.479	86.880	8.22730	3.06110	.08810	.02120	.00130	-.13860	.00000	.51780	.00000	-.13860
3.479	90.860	8.34720	2.62260	.10610	-.03200	-.00220	-.38840	.00000	.52790	.00000	-.38840
3.479	94.960	8.36670	2.25310	.09760	.01050	.00280	-.51730	.00000	.53560	.00000	-.51730
3.479	98.790	8.25030	1.92980	.09750	.01410	-.00900	-.64310	.00000	.54180	.00000	-.64310
3.479	100.670	8.16920	1.78950	.08690	.00460	-.00940	-.70730	.00000	.54440	.00000	-.70730
3.479	90.840	8.32270	2.66270	.13570	-.05380	-.01590	-.40100	.00000	.52690	.00000	-.40100
GRADIENT		.00473	-.08129	.00082	.00032	.00029	-.04377	.00000	.00176	.00000	-.04377

RUN NO. 92/ 0 RVL = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	XCPL	CFBI	CPC
4.960	80.540	8.15180	3.44090	.09010	-.02760	-.00500	.22590	.00000	.50910	.00000	.22590
4.960	82.440	8.29680	3.38610	.09610	-.06140	-.04240	.14730	.00000	.51160	.00000	.14730
4.960	86.430	8.33300	3.21100	.09590	-.06170	-.04130	-.02320	.00000	.51550	.00000	-.02320
4.960	90.430	8.41810	2.93070	.16280	-.17760	-.06450	-.23950	.00000	.52250	.00000	-.23950
4.960	94.440	8.46950	2.47890	.07550	-.08400	-.00490	-.43400	.00000	.53160	.00000	-.43400
4.960	98.400	8.39510	2.13720	.09640	-.10220	-.02910	-.58630	.00000	.53820	.00000	-.58630
4.960	100.300	8.32420	1.98030	.10390	-.06900	-.02650	-.65850	.00000	.54110	.00000	-.65850
4.960	90.430	8.40500	2.93360	.17400	-.18040	-.04190	-.24850	.00000	.52180	.00000	-.24850
GRADIENT		.00886	-.07704	-.00001	-.00233	.00011	-.04578	.00000	.00167	.00000	-.04578



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TABULATED SOURCE DATA, MSFC TWT 583

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MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99003) (20 MAR 74)

REFERENCE DATA

SHEF = .7420 IN. IN. XMRP = 3.2590 IN.
 LREF = .9720 IN. IN. YMRP = .0000 IN.
 BREF = .9720 IN. IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 112/ 0 RN/L = 6.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CYN	CYMH	CBL	CA	CAB	XCP/L	CPB1	CPC
1.955	126.920	5.37390	-.25820	-.05380	.02150	.00560	-.61790	.00000	.59070	.00000	-.61790
1.955	127.010	5.80450	-.18140	-.05700	.02100	.00530	-.58100	.00000	.58810	.00000	-.58100
1.955	122.910	6.12450	-.03400	-.07380	.00600	.00760	-.49240	.00000	.58340	.00000	-.49240
1.955	118.840	6.63600	.25770	-.09400	-.00340	.00070	-.42480	.00000	.57570	.00000	-.42480
1.955	114.790	7.01010	.61960	-.09340	-.00030	.00060	-.31010	.00000	.56710	.00000	-.31010
1.955	110.770	7.39370	.90050	-.10270	-.01200	.00240	-.15670	.00000	.56130	.00000	-.15670
1.955	106.830	7.53250	1.06940	-.10380	-.01530	.00450	-.06640	.00000	.55790	.00000	-.06640
1.955	118.890	6.45040	.26260	-.08320	-.00210	.00570	-.41310	.00000	.57540	.00000	-.41310
GRADIENT		-.10925	-.06754	.00260	.00181	.00054	-.02653	.00000	.00167	.00000	-.02653

RUN NO. 61/ 0 RN/L = 6.26 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CYN	CYMH	CBL	CA	CAB	XCP/L	CPB1	CPC
3.479	129.320	5.02030	.01330	-.03100	.01070	.01690	-.65350	.00000	.58200	.00000	-.65350
3.479	127.400	5.26310	.11960	-.02290	.03170	.01480	-.52380	.00000	.57850	.00000	-.62380
3.479	123.350	5.77200	.28980	-.04140	.01490	.02850	-.53420	.00000	.57370	.00000	-.53420
3.479	119.290	6.27030	.50180	-.06980	-.01330	.01960	-.44710	.00000	.56850	.00000	-.44710
3.479	115.240	6.76710	.75800	-.07320	-.01900	.01880	-.34290	.00000	.56350	.00000	-.34290
3.479	111.230	7.20250	.98830	-.08110	-.02530	.01900	-.23710	.00000	.55860	.00000	-.23710
3.479	109.320	7.36580	1.10740	-.08250	-.02330	.05480	-.18290	.00000	.55630	.00000	-.18290
3.479	119.290	6.23340	.45520	-.10710	-.04890	.01980	-.44350	.00000	.56980	.00000	-.44350
GRADIENT		-.11872	-.05439	.00307	.00252	-.00103	-.02367	.00000	.00126	.00000	-.02367

RUN NO. 62/ 0 RN/L = 5.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CYN	CYMH	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	129.650	4.77400	.18360	-.04700	.01300	.04140	-.66080	.00000	.57570	.00000	-.66080
4.960	127.760	4.92540	.20100	-.05910	.00370	.03590	-.61050	.00000	.57540	.00000	-.61050
4.960	123.710	5.56590	.46570	-.09230	-.00240	.03560	-.52040	.00000	.56800	.00000	-.52040
4.960	119.690	6.09950	.72070	-.10160	-.00310	.03480	-.41790	.00000	.56190	.00000	-.41790
4.960	115.660	6.50310	.94250	-.10670	.00980	.01960	-.30310	.00000	.55730	.00000	-.30310
4.960	111.670	6.87600	1.45950	-.12500	.00770	.02580	-.18920	.00000	.54560	.00000	-.18920
4.960	109.760	7.08230	1.40040	-.10330	.01300	.03270	-.12420	.00000	.54760	.00000	-.12420
4.960	119.700	6.01730	.79650	-.07950	.00790	.04530	-.41450	.00000	.55950	.00000	-.41450
GRADIENT		-.11779	-.06761	.00319	-.00119	.00245	-.02669	.00000	.00156	.00000	-.02669

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DATE 03 AUG 74

TABULATED SOURCE DATA, NSFC TWT 583

PAGE 8

NSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99006) (20 MAR 74)

REFERENCE DATA

SREF 1 .7420 IN. WARP = 3.2590 IN.
 LREF = .9720 IN. WARP = .0000 IN.
 BREF = .9720 IN. WARP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 130/ 0 RN/L = 6.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	KCP/L	CPB1	CPC
1.948	146.170	3.41360	-.28870	-.09850	-.06930	.01480	-1.06320	.00000	.59710	.00000	-1.06320
1.948	146.170	3.71480	-.25150	-.10750	-.06240	.00350	-1.03390	.00000	.59420	.00000	-1.03390
1.948	141.840	4.45450	-.13790	-.08630	-.02300	.01030	-.98290	.00000	.58780	.00000	-.98290
1.948	137.530	5.17680	-.04430	-.04230	.01560	.00680	-.91420	.00000	.58390	.00000	-.91420
1.948	133.320	5.76230	.11170	-.03060	.00660	.01080	-.83000	.00000	.57910	.00000	-.83000
1.948	129.090	6.34500	.18630	-.03030	-.01690	.00370	-.75140	.00000	.57730	.00000	-.75140
1.948	127.580	6.62490	.18360	-.01840	-.01610	.00350	-.67940	.00000	.57760	.00000	-.67940
1.948	137.660	5.05060	-.04720	-.04850	.02250	.00820	-.89780	.00000	.58410	.00000	-.89780
GRADIENT		-.15303	-.02418	-.00431	-.00266	.00028	-.01799	.00000	.00086	.00000	-.01799

RUN NO. 60/ 0 RN/L = 6.25 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	KCP/L	CPB1	CPC
3.479	146.820	2.74720	-.17710	-.04210	-.00880	.01510	-1.00470	.00000	.59360	.00000	-1.00470
3.479	146.870	3.00890	-.16040	-.03620	.00250	.01400	-.97880	.00000	.59170	.00000	-.97880
3.479	142.690	3.59960	-.09010	-.03980	-.00420	.01420	-.91500	.00000	.58680	.00000	-.91500
3.479	138.930	4.20580	-.01040	-.03570	-.01630	.01480	-.84100	.00000	.58290	.00000	-.84100
3.479	134.360	4.78320	.04110	-.03440	-.00480	.00300	-.75890	.00000	.58100	.00000	-.75890
3.479	130.240	5.33600	.15150	-.03240	-.02200	.01700	-.67620	.00000	.57750	.00000	-.67620
3.479	128.270	5.61160	.22510	-.01910	-.01080	.01840	-.63690	.00000	.57550	.00000	-.63690
3.479	138.530	4.20810	-.03320	-.03090	-.00070	.01620	-.84290	.00000	.58380	.00000	-.84290
GRADIENT		-.13983	-.01893	-.00076	.00059	-.00003	-.01808	.00000	.00085	.00000	-.01808

RUN NO. 59/ 0 RN/L = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	149.280	2.41010	-.19540	-.03640	-.03650	.03630	-.97390	.00000	.59650	.00000	-.97390
4.960	147.360	2.73040	-.12510	-.03290	-.03480	.00680	-.96410	.00000	.59040	.00000	-.96410
4.960	143.280	3.30350	.04190	-.03120	-.02560	-.00010	-.91500	.00000	.58020	.00000	-.91500
4.960	139.200	3.90600	.00120	-.02270	-.04680	.13500	-.84580	.00000	.58240	.00000	-.84580
4.960	135.130	4.50290	.06160	-.02650	-.04680	.05680	-.76310	.00000	.58010	.00000	-.76310
4.960	131.040	5.10110	.16220	-.00750	-.04380	.02930	-.68220	.00000	.57690	.00000	-.68220
4.960	129.130	5.37270	.22960	.00180	-.02910	.02780	-.63880	.00000	.57500	.00000	-.63880
4.960	139.200	3.91840	.07460	.00000	-.04910	.03650	-.84360	.00000	.57910	.00000	-.84360
GRADIENT		-.14631	-.01816	-.00166	.00019	-.00034	-.01705	.00000	.00089	.00000	-.01705



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TABULATED SOURCE DATA, MSFC TWT 563

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MSFC 563(TAIF) 324 IN. DIA. ET(418 MOD) W/CRTY

(R99007) (20 MAR 74)

REFERENCE DATA

DATE = .7420 56. IN. WARP = 3.2590 IN.
 LEFT = .9720 IN. WARP = .0000 IN.
 RIGHT = .9720 IN. WARP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 131/ 0 RN/L = 6.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYN	CYNH	CSL	CA	CAB	KCP/L	CPB1	CPC
1.953	169.390	.63300	-.58430	-.02110	.03120	-.00030	-1.24960	.00000	.73790	.00000	-1.24960
1.953	167.430	.86250	-.56810	-.01590	.04770	.00170	-1.24630	.00000	.69690	.00000	-1.24630
1.953	163.220	1.34790	-.52890	.01830	.07530	.01010	-1.22050	.00000	.65080	.00000	-1.22050
1.953	158.980	1.90220	-.47050	.01180	.05420	.01160	-1.20340	.00000	.62540	.00000	-1.20340
1.953	154.700	2.56960	-.44390	.04810	.06230	.01440	-1.17360	.00000	.61250	.00000	-1.17360
1.953	150.440	3.23550	-.40940	-.02220	-.01720	.01320	-1.12750	.00000	.60440	.00000	-1.12750
1.953	148.440	3.54670	-.32830	-.04570	-.05110	.00880	-1.09300	.00000	.59850	.00000	-1.09300
1.953	159.010	1.89730	-.45840	.01540	.05330	.00820	-1.18910	.00000	.62440	.00000	-1.18910
GRADIENT		-.13920	-.01098	.00047	.00369	-.00053	-.00721	.00000	.00601	.00000	-.00721

RUN NO. 57/ 0 RN/L = 6.25 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYN	CYNH	CSL	CA	CAB	KCP/L	CPB1	CPC
3.479	169.390	.30570	-.35580	-.01550	.00380	.00510	-1.21860	.00000	.70470	.00000	-1.21860
3.479	167.640	.63980	-.38010	-.01360	.00030	.00540	-1.20510	.00000	.68560	.00000	-1.20510
3.479	163.330	.98720	-.38750	.00180	.01450	.00160	-1.17440	.00000	.65080	.00000	-1.17440
3.479	159.420	1.40030	-.36290	.00680	.02310	.01370	-1.13460	.00000	.62750	.00000	-1.13460
3.479	155.270	1.89870	-.28700	-.00380	.01330	.01410	-1.09050	.00000	.60870	.00000	-1.09050
3.479	151.150	2.42700	-.22640	-.01460	.00340	.00410	-1.03790	.00000	.59870	.00000	-1.03790
3.479	149.180	2.69930	-.19420	-.01660	-.00730	.01780	-1.00960	.00000	.59500	.00000	-1.00960
3.479	159.420	1.39400	-.33930	.00690	.01730	.01680	-1.13830	.00000	.62470	.00000	-1.13830
GRADIENT		-.11081	-.00882	.00017	.00025	-.00045	-.01020	.00000	.00531	.00000	-.01020

RUN NO. 58/ 0 RN/L = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYN	CYNH	CSL	CA	CAB	KCP/L	CPB1	CPC
4.980	169.670	.38470	-.34650	-.01900	-.00140	.00550	-1.20420	.00000	.73890	.00000	-1.20420
4.980	167.770	.50800	-.41430	-.01940	-.00680	.04080	-1.19340	.00000	.72410	.00000	-1.19340
4.980	163.710	.85680	-.41630	-.03820	-.02030	.03590	-1.16840	.00000	.67210	.00000	-1.16840
4.980	159.670	1.17410	-.41460	-.02940	-.00510	-.00030	-1.12130	.00000	.64380	.00000	-1.12130
4.980	155.600	1.75640	-.25070	-.00990	-.02010	.00640	-1.07260	.00000	.60720	.00000	-1.07260
4.980	151.550	2.18040	-.26880	.01000	-.00190	-.00090	-1.01960	.00000	.60390	.00000	-1.01960
4.980	149.620	2.48540	-.24320	-.01370	-.03890	.03080	-.99290	.00000	.59960	.00000	-1.09290
4.980	159.670	1.18790	-.39220	-.01170	-.02970	.00770	-1.12820	.00000	.63980	.00000	-1.12820
GRADIENT		-.10477	-.00791	-.00111	.00092	.00056	-.01073	.00000	.00721	.00000	-.01073

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TABULATED SOURCE DATA, MSFC TWT 503

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MSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99008) (20 MAR 74)

REFERENCE DATA

BREF = .7420 3d. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 132/ 0 RN/L = 6.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMH	CBL	CA	CAB	KCP/L	CFB1	CPC
1.963	190.030	-.56120	.53300	.01210	.02650	.00260	-1.28700	.00000	.74740	.00000	-1.28700
1.963	188.060	-.41510	.45990	.01310	.02480	.00850	-1.27620	.00000	.77490	.00000	-1.27620
1.963	183.930	-.17810	.24300	.00860	.02000	.00850	-1.24910	.00000	.81940	.00000	-1.24910
1.963	179.800	.01060	-.02060	-.00210	.01230	-.00090	-1.24590	.00000	.91840	.00000	-1.24590
1.963	175.680	.81880	-.29370	-.00470	.01330	.00090	-1.23440	.00000	.81560	.00000	-1.23440
1.963	171.560	.47790	-.52670	-.00560	.00390	.00380	-1.24690	.00000	.77390	.00000	-1.24690
1.963	169.580	.64660	-.58170	.00510	.01750	-.00410	-1.24370	.00000	.73870	.00000	-1.24370
1.963	179.810	.02690	-.01440	-.00080	.02330	-.00190	-1.23800	.00000	.67550	.00000	-1.23800
GRADIENT		-.05630	.05735	.00074	.00077	.00035	-.00196	.00000	.00029	.00000	-.00196

RUN NO. 56/ 0 RN/L = 6.29 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMH	CBL	CA	CAB	KCP/L	CFB1	CPC
3.479	189.940	-.57920	.34640	.01260	.02110	.00330	-1.28300	.00000	.68630	.00000	-1.28300
3.479	188.000	-.45080	.31080	.01430	.01790	.00360	-1.28370	.00000	.70220	.00000	-1.28370
3.479	183.900	-.21200	.19120	.01330	.01620	.00390	-1.27250	.00000	.75910	.00000	-1.27250
3.479	179.840	-.03970	-.01070	.00000	.00510	-.00020	-1.25900	.00000	.83540	.00000	-1.25900
3.479	175.750	.14320	-.18630	.01480	.00480	.00260	-1.24560	.00000	.80520	.00000	-1.24560
3.479	171.690	.37200	-.52700	.00840	-.00070	.00060	-1.23150	.00000	.73510	.00000	-1.23150
3.479	169.730	.49430	-.36700	.01050	-.00680	.00630	-1.22190	.00000	.71140	.00000	-1.22190
3.479	179.840	-.03170	-.01520	.00790	.00000	.00280	-1.22600	.00000	.53120	.00000	-1.22600
GRADIENT		-.03135	.03767	.00018	.00130	-.00000	-.00317	.00000	-.00214	.00000	-.00317

RUN NO. 53/ 0 RN/L = 4.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMH	CBL	CA	CAB	KCP/L	CFB1	CPC
4.960	189.820	-.50910	.31720	.00220	.01140	.00380	-1.23600	.00000	.69070	.00000	-1.23600
4.960	187.910	-.41310	.26530	-.00410	.01370	-.00200	-1.23830	.00000	.69400	.00000	-1.23830
4.960	183.860	-.20720	.19930	-.00520	.01490	-.00780	-1.23700	.00000	.71600	.00000	-1.23700
4.960	179.820	.03930	.06110	-.00040	.00170	.02230	-1.21910	.00000	.31210	.00000	-1.21910
4.960	175.780	.12360	-.10120	-.00090	.01660	-.00180	-1.20100	.00000	.83690	.00000	-1.20100
4.960	171.600	.26640	-.10620	-.00730	.01960	-.00790	-1.18430	.00000	.76690	.00000	-1.18430
4.960	169.660	.36310	-.38330	.01460	.03220	.00280	-1.17000	.00000	.75540	.00000	-1.17000
4.960	179.830	-.06840	-.02470	-.00130	.07190	-.00090	-1.21930	.00000	.51960	.00000	-1.21930
GRADIENT		-.04401	.03597	-.00031	-.00072	.00009	-.00343	.00000	-.00474	.00000	-.00343



DATE 03 AUG 74

TABULATED SOURCE DATA, NSFC TWT 583

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NSFC 583 (TAIF) 324 IN. CIA. ET (418 MOD) W/GRIT

(R99008) (20 MAR 74)

REFERENCE DATA

SREF = .7420 84. IN YARP = 3.2590 IN.
 LREF = .9720 IN. YARP = .0000 IN.
 BREF = .9720 IN. ZARP = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 45.000
 PARAMETRIC DATA

RUN NO. 5/ 0 RNL = 5.00 GRADIENT INTERVAL = -5.00/ 5.00

MACN	ALPHA	CNM	CLNM	CYM	CYNN	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	-9.790	-67460	-71430	-03000	.07210	.00570	.49200	.01830	.39850	.00000	.47360
4.960	-7.690	-51060	-57360	-02910	.07320	.01160	.47750	.01820	.38750	.00000	.45930
4.960	-3.630	-25020	-28740	-02830	.04990	.00940	.45830	.01680	.36290	.00000	.44140
4.960	.200	.01160	.06330	-03840	.04930	-.01360	.44660	.01400	-.35780	.00000	.43260
4.960	4.250	.20620	.41870	-.06040	.04490	-.01910	.44180	.01440	.22970	.00000	.42750
4.960	8.270	.43370	.73370	-.04170	.06920	-.01230	.44250	.01490	.30150	.00000	.42760
4.960	10.190	.53040	.86680	-.05310	.04730	-.01960	.44620	.01640	.30890	.00000	.42970
4.960	.160	-.12380	.07150	-.03980	.03020	.00210	.44700	.01470	.68270	.00000	.43230
GRADIENT		.05646	.08739	-.00397	-.00062	-.00353	-.00204	-.00030	-.01682	.00000	-.00174

NSFC 583 (TAIF) 324 IN. CIA. ET (418 MOD) W/GRIT

(R99010) (20 MAR 74)

REFERENCE DATA

SREF = .7420 84. IN YARP = 3.2590 IN.
 LREF = .9720 IN. YARP = .0000 IN.
 BREF = .9720 IN. ZARP = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 45.000
 PARAMETRIC DATA

RUN NO. 6/ 0 RNL = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

MACN	ALPHA	CNM	CLNM	CYM	CYNN	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	10.490	.69930	.68020	-.04110	.04480	-.03200	.47350	.02220	.35060	.00000	.45120
4.960	12.400	.85100	1.02850	-.04570	.04080	-.02060	.47690	.02240	.37250	.00000	.45650
4.960	16.460	1.19450	1.32180	-.06020	.06630	-.01800	.49540	.02290	.39020	.00000	.47250
4.960	20.510	1.59090	1.53750	-.07510	.05270	-.03020	.51100	.02310	.41460	.00000	.46780
4.960	24.590	2.06780	1.73380	-.07330	.00260	-.04610	.52870	.02370	.43680	.00000	.45490
4.960	28.620	2.50440	1.97680	-.08160	.01980	-.05020	.54360	.02340	.44530	.00000	.45200
4.960	30.560	2.87140	2.04280	-.09050	.01610	-.04410	.55240	.02330	.45890	.00000	.45900
4.960	20.510	1.57650	1.51440	-.07530	.04600	-.03070	.50690	.02370	.41560	.00000	.46310
GRADIENT		.10699	.05746	-.00230	-.00196	-.00130	.00397	.00006	.00310	.00000	.00390

DATE 03 AUG 74

TABULATED SOURCE DATA, NSFC TWT 583

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NSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99011) (20 MAR 74)

REFERENCE DATA

SREF = .7420 SQ. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 45.000

RUN NO. 91/ 0 RVAL = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

WICH	ALPHA	CNM	CLM	CYN	CBL	CA	CAB	KCP/L	CFB1	CPC
4.960	50.360	5.37890	2.87780	.11550	-.07420	.58150	.00000	.48950	.00000	.58150
4.960	52.290	5.62150	2.90740	.13100	-.08970	.57360	.00000	.49260	.00000	.57360
4.960	56.330	6.16410	3.03050	.12310	-.08990	.54130	.00000	.49710	.00000	.54130
4.960	60.330	6.67970	3.13370	.14790	-.09400	.50730	.00000	.50100	.00000	.50730
4.960	64.410	7.26030	3.58190	.09440	-.09350	.48650	.00000	.49700	.00000	.48650
4.960	68.380	7.69990	3.56450	.11320	-.09470	.42450	.00000	.50200	.00000	.42450
4.960	70.290	7.89130	3.59460	.10130	-.10270	.38040	.00000	.50330	.00000	.38040
4.960	80.350	6.83280	3.45010	.07980	-.10020	.53780	.00000	.49470	.00000	.53780
GRADIENT		.12841	.04667	-.00076	-.00101	-.00950	.00000	.00059	.00000	-.00950

NSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99012) (20 MAR 74)

REFERENCE DATA

SREF = .7420 SQ. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 45.000

RUN NO. 92/ 0 RVAL = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

WICH	ALPHA	CNM	CLM	CYN	CBL	CA	CAB	KCP/L	CFB1	CPC
4.960	60.940	6.33330	3.33420	.02800	-.10650	.21620	.00000	.51300	.00000	.21620
4.960	62.440	6.43780	3.25140	.01310	-.10630	.14570	.00000	.51950	.00000	.14570
4.960	66.460	6.55740	3.10650	.10700	-.10690	-.01430	.00000	.51940	.00000	-.01430
4.960	90.430	6.50730	2.79130	.06120	-.10070	-.23840	.00000	.52550	.00000	-.23840
4.960	94.440	6.55440	2.37850	.06470	-.12620	-.42970	.00000	.53420	.00000	-.42970
4.960	98.410	6.57810	2.03860	.14320	-.10790	-.57960	.00000	.54120	.00000	-.57960
4.960	100.300	6.50740	1.89490	.15740	-.13010	-.65020	.00000	.54360	.00000	-.65020
4.960	90.430	6.91000	2.79170	.07680	-.10480	-.26060	.00000	.52550	.00000	-.26060
GRADIENT		.00799	-.07559	.05628	-.00091	-.04515	.00000	.00160	.00000	-.04515



DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 583

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MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(899013) (20 MAR 74)

REFERENCE DATA

SREF = .7420 SQ. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 45.000
 PARAMETRIC DATA

RUN NO. 63/0 RML = 4.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMA	CYM	CYVM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	129.640	4.89290	.16230	-.26200	.09240	-.03090	-.67280	.00000	.57670	.00000	-.57280
4.960	127.750	5.15020	.24420	-.26920	.08080	-.02440	-.62790	.00000	.57420	.00000	-.62790
4.960	123.710	5.69200	.40520	-.30150	.08200	-.02540	-.53840	.00000	.57010	.00000	-.53840
4.960	119.680	6.18000	.59960	-.32190	.08630	-.03810	-.45940	.00000	.56810	.00000	-.45940
4.960	115.660	6.62630	.68450	-.33660	.09450	-.04550	-.33150	.00000	.56450	.00000	-.33150
4.960	111.670	7.01860	.82860	-.35910	.09320	-.04020	-.21240	.00000	.56190	.00000	-.21240
4.960	109.740	7.23430	.94260	-.35180	.08300	-.05150	-.15280	.00000	.55980	.00000	-.15280
4.960	119.680	6.15370	.45680	-.32190	.09980	-.02760	-.43800	.00000	.57010	.00000	-.43800
GRADIENT		-.11700	-.03777	.00444	-.00016	.00115	-.02599	.00000	.00081	.00000	-.02599

REFERENCE DATA

SREF = .7420 SQ. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 45.000
 PARAMETRIC DATA

RUN NO. 52/0 RML = 5.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMA	CYM	CYVM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	149.280	2.43350	-.12800	-.16610	.08870	-.02220	-.96910	.00000	.59160	.00000	-.96910
4.960	147.360	2.71980	-.10270	-.16810	.09480	-.04030	-.94780	.00000	.58900	.00000	-.94780
4.960	143.270	3.30400	-.00220	-.17120	.06860	-.03270	-.89010	.00000	.58260	.00000	-.89010
4.960	139.210	3.87470	.06290	-.18040	.06350	-.03270	-.82060	.00000	.57960	.00000	-.82060
4.960	135.120	4.43170	.13110	-.19010	.08350	-.04660	-.74010	.00000	.57730	.00000	-.74010
4.960	131.100	5.02910	.27080	-.19420	.09480	-.04240	-.66060	.00000	.57310	.00000	-.66060
4.960	129.170	5.27370	.29070	-.20760	.11090	-.04980	-.62340	.00000	.57290	.00000	-.62340
4.960	139.210	3.84810	.02910	-.18670	.09730	-.02980	-.82490	.00000	.58110	.00000	-.82490
GRADIENT		-.14128	-.02119	.00192	-.00077	.00296	-.01747	.00000	.00092	.00000	-.01747

NSFC 563 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99016) (20 MAR 74)

REFERENCE DATA

SREF = .7420 SQ. IN WARP = 3.2590 IN.
 LREF = .9720 IN. WARP = .0000 IN.
 GREF = .9720 IN. WARP = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 49.000

PARAMETRIC DATA

RUN NO. 53/ 0 RN/L = 5.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CUM	CLIM	CYM	CYNM	CBL	CA	CAB	XCPL	CFBI	CPC
4.960	169.660	.42420	-.36040	-.06100	.06180	-.00610	-1.16680	.00000	.73000	.00000	-1.16680
4.960	167.770	.53350	-.41320	-.07680	.06140	-.00630	-1.15090	.00000	.71700	.00000	-1.15090
4.960	163.700	.68680	-.40880	-.10440	.08130	-.01420	-1.12260	.00000	.66250	.00000	-1.12260
4.960	159.660	1.22610	-.39220	-.11660	.02140	-.03250	-1.08560	.00000	.63800	.00000	-1.08560
4.960	155.610	1.68840	-.32390	-.12680	.08600	-.02690	-1.03900	.00000	.61560	.00000	-1.03900
4.960	151.550	2.23210	-.24260	-.13660	.11240	-.03930	-.99560	.00000	.60130	.00000	-.99560
4.960	149.610	2.50400	-.18960	-.13270	.11640	-.04160	-.97250	.00000	.59580	.00000	-.97250
4.960	159.660	1.21260	-.41390	-.16860	.04440	-.01170	-1.09210	.00000	.64180	.00000	-1.09210
GRADIENT	-.16369	-.00942	.00350	-.00269	.00176	.00077	-.00974	.00000	.00677	.00000	-.00974

REFERENCE DATA

SREF = .7420 SQ. IN WARP = 3.2590 IN.
 LREF = .9720 IN. WARP = .0000 IN.
 GREF = .9720 IN. WARP = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 49.000

PARAMETRIC DATA

NSFC 563 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99016) (20 MAR 74)

RUN NO. 54/ 0 RN/L = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CUM	CLIM	CYM	CYNM	CBL	CA	CAB	XCPL	CFBI	CPC
4.960	169.620	-.51010	.32080	-.03830	.00050	.04240	-1.21110	.00000	.69160	.00000	-1.21110
4.960	167.910	-.42790	.27100	-.05090	.04100	.03560	-1.21150	.00000	.69250	.00000	-1.21150
4.960	163.860	-.23500	.14150	-.04650	.07210	.02160	-1.21900	.00000	.68700	.00000	-1.21900
4.960	179.830	-.05640	.03880	-.04710	.06080	.02870	-1.22270	.00000	.70210	.00000	-1.22270
4.960	175.800	.12350	-.20520	-.03320	.04580	.00100	-1.21640	.00000	.67140	.00000	-1.21640
4.960	171.800	.28660	-.34290	-.06650	.07420	-.00700	-1.21080	.00000	.78660	.00000	-1.21080
4.960	169.860	.41100	-.34750	-.06620	.04450	.00110	-1.20440	.00000	.72930	.00000	-1.20440
4.960	179.830	-.06270	-.02290	-.04810	.02970	.04290	-1.23490	.00000	.53430	.00000	-1.23490
GRADIENT	-.04359	.00399	.00107	-.00003	.00232	-.00029	-.00029	.00000	-.00324	.00000	-.00029



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TABULATED SOURCE DATA, MSFC TWT 503

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MSFC 503 (TAIF) 324 IN. DIA. ET (416 MOD) W/GRIT

(R99017) (20 MAR 74)

REFERENCE DATA

SHEF = .7420 IN. IN. 1060P = 3.2590 IN.
 LREF = .9720 IN. IN. 1060P = .0000 IN.
 SHEF = .9720 IN. IN. 2060P = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 90.000

RUN NO. 136/ 0 RVL = 6.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CBL	CA	CAB	KCP/L	CPB1	CPC
1.963	-10.090	-77150	-1.02560	.11460	.02510	.73150	.09960	.35160	.00000	.63190
1.963	-8.090	-55400	-.63260	-.11100	.01590	.71270	.09130	.32140	.00000	.62130
1.963	-3.930	-22560	-.41750	-.08460	-.00010	.70660	.08040	.26100	.00000	.62640
1.963	.230	.03930	.04940	-.08320	.13360	.70960	.07350	.36390	.00000	.63600
1.963	4.390	.31740	.50830	-.07580	.12270	.70130	.08100	.30430	.00000	.62030
1.963	8.940	.63840	.93890	-.08450	.10880	.72120	.09380	.32700	.00000	.62730
1.963	10.540	.85320	1.13010	-.09500	.11280	.72760	.10160	.35290	.00000	.62600
1.963	.220	.04730	.06210	-.08270	.12520	.68530	.07490	.35450	.00000	.61030
GRADIENT		.06526	.11127	.00106	-.00213	-.00066	.00007	.00520	.00000	-.00073

RUN NO. 9/ 0 RVL = 6.32 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CBL	CA	CAB	KCP/L	CPB1	CPC
3.479	-9.950	-75270	-.88220	-.10850	.06470	.57180	.04900	.37890	.00000	.52260
3.479	-8.010	-.57560	-.72900	-.09240	.06240	.56600	.04820	.36250	.00000	.51770
3.479	-3.890	-.25120	-.39120	-.06810	.03400	.55910	.04250	.31200	.00000	.51660
3.479	.200	.03240	.02660	-.05640	.06660	.56060	.04060	.43960	.00000	.51990
3.479	4.320	.30390	.43020	-.05510	.07290	.55720	.04340	.33680	.00000	.51370
3.479	8.400	.62320	.75880	-.06110	.07150	.56130	.04820	.37100	.00000	.51310
3.479	10.360	.81950	.90840	-.06750	.07450	.56060	.04850	.38990	.00000	.51203
3.479	.200	.03240	.02660	-.05660	.06380	.55970	.04100	.44000	.00000	.51870
GRADIENT		.06761	.10005	.00156	-.00278	-.00023	.00011	.00296	.00000	-.00035

RUN NO. 8/ 0 RVL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	-9.790	-.62070	-.77860	-.06400	.05360	.48890	.02330	.36460	.00000	.46560
4.960	-7.890	-.48350	-.64440	-.06840	.07550	.47920	.02330	.35100	.00000	.45590
4.960	-3.850	-.20980	-.33590	-.03940	.04370	.46390	.02160	.30440	.00000	.44220
4.960	.200	.05240	.02800	-.04310	.07580	.46570	.02070	.48970	.00000	.44490
4.960	4.260	.27360	.37690	-.04840	.05470	.46510	.02090	.34340	.00000	.44410
4.960	6.280	.56230	.68260	-.04070	.07310	.47270	.02285	.37160	.00000	.44980
4.960	10.200	.77160	.77600	-.04590	.05790	.47250	.02340	.39330	.00000	.44900
4.960	.200	.03900	.04430	-.04330	.06960	.46310	.02150	.38510	.00000	.44150
GRADIENT		.05977	.08811	-.00111	-.00423	.00015	-.00009	.00477	.00000	.00023

NSFC 563 (TAIF) 324 IN. DIA. ET (418 MOD) W/CAIT

(R99010) (20 MAR 74)

REFERENCE DATA

REF = .7420 SQ. IN YARP = 3.2590 IN.
 LREF = .9720 IN. YARP = .0000 IN.
 GREF = .9720 IN. ZARP = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 90.000

PARAMETRIC DATA

RUN NO. 133/ 0 RN/L = 6.94 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	XCP/L	CPB1	CPC
1.962	10.820	.8590	1.11210	-.06440	.13310	-.04070	.72130	.10470	.35780	.00000	.61660
1.962	12.800	1.11100	1.26660	-.06930	.12170	-.04510	.72820	.11220	.38440	.00000	.61600
1.962	17.060	1.71940	1.55250	-.03630	.08930	-.06310	.72160	.11940	.42560	.00000	.60220
1.962	21.350	2.40550	1.88750	.00860	.06920	-.08350	.73050	.13110	.44610	.00000	.59930
1.962	25.670	3.17290	2.29580	.03020	.05200	-.11700	.74480	.13370	.45680	.00000	.61100
1.962	29.940	3.91300	2.60830	.10190	.04160	-.14520	.72170	.13840	.46670	.00000	.56320
1.962	31.970	4.27080	2.74990	.11640	.04660	-.15490	.70850	.14280	.47060	.00000	.56370
1.962	21.310	2.39620	1.88190	.02070	.07670	-.08440	.72080	.12950	.44600	.00000	.59120
GRADIENT	.16278	.07056	.00924	-.00432	-.00364	-.00022	.00169	.00169	.00498	.00000	-.00192

RUN NO. 10/ 0 RN/L = 6.34 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	XCP/L	CPB1	CPC
3.479	10.650	.81940	.91340	-.04170	.09440	-.03210	.56130	.04860	.36880	.00000	.51260
3.479	12.590	1.00280	1.07100	-.03810	.09780	-.03980	.56290	.04880	.39690	.00000	.51410
3.479	16.750	1.44950	1.35760	-.01800	.08410	-.05230	.57180	.04850	.41980	.00000	.52330
3.479	20.870	1.94760	1.62750	-.00230	.07410	-.07190	.57960	.04860	.43730	.00000	.53100
3.479	25.030	2.51440	1.87110	.00630	.09150	-.09410	.60080	.05120	.45320	.00000	.54950
3.479	29.170	3.14850	2.10480	.02330	.08240	-.11810	.61920	.05200	.46630	.00000	.56710
3.479	31.150	3.45760	2.20690	.02800	.10080	-.13820	.62250	.05590	.47180	.00000	.57460
3.479	20.870	1.95380	1.63750	-.00230	.07990	-.07140	.58040	.04860	.43690	.00000	.53160
GRADIENT	.12893	.06271	.00347	.00014	-.00500	.00326	.00516	.00516	.00409	.00000	.00310

RUN NO. 7/ 0 RN/L = 4.99 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	10.500	.71300	.84020	-.02300	.07240	-.03020	.47670	.02270	.37780	.00000	.43390
4.960	12.400	.85040	.97550	-.01670	.07230	-.04600	.48470	.02330	.38320	.00000	.46130
4.960	16.470	1.26560	1.22510	-.01920	.10110	-.09130	.49550	.02360	.41360	.00000	.47140
4.960	20.520	1.71080	1.46530	-.00450	.12560	-.02080	.51480	.02400	.43370	.00000	.49070
4.960	24.600	2.25540	1.63010	.01560	.11640	-.09200	.53710	.02390	.45690	.00000	.51320
4.960	28.950	2.86880	1.80480	.01390	.13180	-.11830	.55750	.02370	.47320	.00000	.53370
4.960	30.500	3.16920	1.91310	-.02840	.15370	-.12730	.57230	.02330	.47760	.00000	.54900
4.960	20.320	1.71050	1.45180	.01210	.11530	-.06680	.51460	.02400	.43300	.00000	.49050
GRADIENT	.12301	.05224	.00030	.00377	-.00467	.00470	.00503	.00503	.00421	.00000	.00467



DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 583

PAGE 15

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R09019) (20 MAR 74)

REFERENCE DATA

BREF = .7420 IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 90.000

RUN NO. 100/ 0 RNL = 7.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CYM	CYH	CBL	CA	CAB	XCP/L	CPH	CPC
1.946	51.300	6.69770	4.00930	-.01370	.16370	-.23910	.50860	.00000	.47870	.00000	.50860
1.946	53.220	6.97180	4.09330	-.01210	.15230	-.24890	.50080	.00000	.48040	.00000	.50080
1.946	57.320	7.52620	4.18730	-.00750	.09110	-.27390	.48260	.00000	.48580	.00000	.48260
1.946	61.440	8.11320	4.43100	-.05980	.14120	-.28560	.50620	.00000	.48760	.00000	.50620
1.946	65.450	8.34990	4.10690	-.07080	.07900	-.29730	.51120	.00000	.49700	.00000	.51120
1.946	69.460	8.65990	3.99400	-.04650	.01180	-.31070	.42090	.00000	.50230	.00000	.42090
1.946	71.360	8.75440	3.89330	-.05330	-.03230	-.31440	.36040	.00000	.50520	.00000	.36040
1.946	61.350	7.82400	4.06970	-.05650	.13420	-.27820	.53090	.00000	.49210	.00000	.53090
GRADIENT		.10302	-.00396	-.00261	-.00861	-.00370	-.00550	.00000	.00134	.00000	-.00550

RUN NO. 99/ 0 RNL = 6.23 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CYM	CYH	CBL	CA	CAB	XCP/L	CPH	CPC
3.479	50.810	6.23460	3.20210	-.04690	.11220	-.25030	.60860	.00000	.49320	.00000	.60860
3.479	52.740	6.50150	3.24250	-.05970	.02340	-.27030	.60460	.00000	.49580	.00000	.60460
3.479	56.790	7.09990	3.37850	-.06280	.03660	-.28960	.58060	.00000	.49980	.00000	.58060
3.479	60.860	7.64580	3.46330	-.06460	.00590	-.30970	.54760	.00000	.50360	.00000	.54760
3.479	64.910	8.10410	3.54180	-.06730	-.03030	-.32800	.51440	.00000	.50650	.00000	.51440
3.479	68.930	8.49930	3.67840	-.07500	-.06830	-.34370	.43160	.00000	.50730	.00000	.43160
3.479	70.840	8.64450	3.70420	-.08760	-.09810	-.35140	.41250	.00000	.50800	.00000	.41250
3.479	60.890	7.63160	3.49330	-.08270	-.00100	-.30710	.53220	.00000	.50290	.00000	.53220
GRADIENT		.12175	.02529	-.00091	-.00856	-.00403	-.00952	.00000	.00074	.00000	-.00952

RUN NO. 90/ 0 RNL = 4.84 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CYM	CYH	CBL	CA	CAB	XCP/L	CPH	CPC
4.960	50.410	6.12130	3.00340	-.06840	.05370	-.27890	.65040	.00000	.49720	.00000	.65040
4.960	52.320	6.34360	3.18590	-.07280	.05630	-.27860	.63700	.00000	.49320	.00000	.63700
4.960	56.350	7.09100	3.35150	-.09700	.01860	-.30950	.61620	.00000	.50040	.00000	.61620
4.960	60.400	7.65010	3.51120	-.09950	-.00360	-.32860	.57600	.00000	.50270	.00000	.57600
4.960	64.420	8.16570	3.64110	-.09720	-.05990	-.35000	.52510	.00000	.50300	.00000	.52510
4.960	68.420	8.58620	3.74140	-.10060	-.08000	-.36310	.46180	.00000	.50680	.00000	.46180
4.960	70.320	8.73240	3.75460	-.10640	-.13000	-.37260	.42700	.00000	.50760	.00000	.42700
4.960	60.360	7.66390	3.52140	-.11100	-.01520	-.32320	.57580	.00000	.50260	.00000	.57580
GRADIENT		.13428	.03636	-.00167	-.00895	-.00493	-.01110	.00000	.00060	.00000	-.01110

REPRODUCIBILITY OF THE
 ORIGINAL PAGE IS POOR

NSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99020) (20 MAR 74)

REFERENCE DATA

REF = .7420 IN. XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 90.000

RUN NO. 99/ 0 RNL = 6.80 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	KCP/L	CFBI	CPC
1.962	81.500	9.35680	3.32830	.00730	-.15200	-.34100	-.11140	.00000	.52070	.00000	-.11140
1.962	83.390	9.45110	3.21480	.02310	-.16980	-.34820	-.18530	.00000	.52340	.00000	-.18530
1.962	87.380	9.60530	2.90440	.06360	-.17920	-.35710	-.32390	.00000	.52990	.00000	-.32390
1.962	91.350	9.68580	2.49020	.09330	-.20180	-.36570	-.43990	.00000	.53780	.00000	-.43990
1.962	95.330	9.68110	2.10420	.12930	-.21230	-.37240	-.54850	.00000	.54470	.00000	-.54850
1.962	99.250	9.59620	1.73300	.12700	-.21610	-.37030	-.65100	.00000	.55090	.00000	-.65100
1.962	101.130	9.43670	1.56380	.12470	-.22280	-.36580	-.69560	.00000	.55370	.00000	-.69560
1.962	91.340	7.66990	2.47030	.12500	-.22970	-.36410	-.42240	.00000	.53810	.00000	-.42240
GRADIENT		.00507	-.09212	.00640	-.00341	-.00137	-.02960	.00000	.00172	.00000	-.02960

RUN NO. 88/ 0 RNL = 6.26 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	KCP/L	CFBI	CPC
3.479	81.060	9.21130	3.48000	-.04600	-.24010	-.36010	.19010	.00000	.51680	.00000	.19010
3.479	82.960	9.33430	3.40680	-.07850	-.14940	-.36110	.10510	.00000	.51910	.00000	.10510
3.479	86.930	9.36330	3.19320	-.08070	-.16720	-.37150	-.10120	.00000	.52320	.00000	-.10120
3.479	90.930	9.43580	2.79180	-.06260	-.20300	-.37390	-.30080	.00000	.53110	.00000	-.30080
3.479	94.920	9.44820	2.37360	-.05700	-.21580	-.37920	-.44690	.00000	.53880	.00000	-.44690
3.479	98.870	9.35710	1.93450	-.05730	-.23040	-.38440	-.60020	.00000	.54650	.00000	-.60020
3.479	100.750	9.27640	1.77030	-.07210	-.19930	-.38070	-.66050	.00000	.54930	.00000	-.66050
3.479	90.930	9.43080	2.83360	-.08000	-.18410	-.37680	-.29890	.00000	.53030	.00000	-.29890
GRADIENT		.00332	-.09030	.00002	-.00124	-.00119	-.04363	.00000	.00170	.00000	-.04363

RUN NO. 87/ 0 RNL = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	KCP/L	CFBI	CPC
4.960	80.580	9.23490	3.65130	-.09870	-.20370	-.37820	.27470	.00000	.51380	.00000	.27470
4.960	82.480	9.22530	3.58270	-.08580	-.16870	-.36940	.20400	.00000	.51570	.00000	.20400
4.960	86.470	9.45530	3.37020	-.08000	-.21680	-.36990	.00620	.00000	.52050	.00000	.00620
4.960	90.490	9.43430	3.08940	-.05780	-.25030	-.38080	-.20940	.00000	.52560	.00000	-.20940
4.960	94.470	9.52200	2.62590	-.08970	-.22070	-.40440	-.41590	.00000	.53450	.00000	-.41590
4.960	98.440	9.47730	2.23670	-.09990	-.18320	-.38810	-.56230	.00000	.54140	.00000	-.56230
4.960	100.330	9.28190	2.08560	-.08940	-.17400	-.39300	-.64090	.00000	.54340	.00000	-.64090
4.960	90.470	9.42090	3.13260	-.03630	-.29360	-.39710	-.20380	.00000	.52470	.00000	-.20380
GRADIENT		.00550	-.08227	-.00016	.00045	-.00100	-.04755	.00000	.00156	.00000	-.04755

DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWI 583

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(899021) (20 MAR 74)

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

REFERENCE DATA

REF = .7420 SQ. IN. WARP = 3.2590 IN.
 LREF = .9720 IN. YWARP = .0000 IN.
 BREF = .9720 IN. ZWARP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 90.000

RUN NO. 109/ 0 RN/L = 7.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYM	CVM	CBL	CA	CAB	KCP/L	CPB1	CPC
1.931	126.790	6.06930	-.42850	-.26460	-.18370	-.23660	-.64800	.00000	.59470	.00000	-.64800
1.931	126.060	6.36840	-.36320	-.25890	-.18480	-.24850	-.59690	.00000	.59240	.00000	-.59690
1.931	122.750	6.91560	-.24050	-.31600	-.20340	-.26980	-.49700	.00000	.58850	.00000	-.49700
1.931	118.660	7.51810	.07490	-.33590	-.20000	-.29070	-.44260	.00000	.58070	.00000	-.44260
1.921	114.590	7.99820	.46080	-.37170	-.20350	-.30410	-.32370	.00000	.57240	.00000	-.32370
1.851	110.980	8.39410	.85610	-.37960	-.18260	-.31550	-.16080	.00000	.56470	.00000	-.16080
1.931	108.650	8.60480	1.02140	-.37720	-.18680	-.32410	-.06180	.00000	.56180	.00000	-.06180
1.931	116.700	7.40350	.09650	-.32280	-.18130	-.28620	-.43970	.00000	.58020	.00000	-.43970
GRADIENT		-.12601	-.07425	.00636	.00006	.00425	-.02795	.00000	.00169	.00000	-.02795

RUN NO. 65/ 0 RN/L = 6.23 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYM	CVM	CBL	CA	CAB	KCP/L	CPB1	CPC
3.479	129.200	5.82290	-.07200	-.21550	-.07040	-.22970	-.71640	.00000	.58460	.00000	-.71640
3.479	127.300	6.09190	.02500	-.22460	-.06620	-.23930	-.67700	.00000	.58170	.00000	-.67700
3.479	125.210	6.69080	.12070	-.24390	-.06880	-.26220	-.57510	.00000	.57930	.00000	-.57510
3.479	119.160	7.21770	.32920	-.26740	-.08470	-.27740	-.47780	.00000	.57450	.00000	-.47780
3.479	115.100	7.72890	.54550	-.30070	-.10860	-.29700	-.37120	.00000	.57020	.00000	-.37120
3.479	111.080	8.15510	.81020	-.32140	-.12530	-.28110	-.25590	.00000	.56320	.00000	-.25590
3.479	109.170	8.34170	.94740	-.33210	-.13200	-.32360	-.19760	.00000	.56270	.00000	-.19760
3.479	119.160	7.20650	.28540	-.25500	-.06000	-.27410	-.47580	.00000	.57560	.00000	-.47580
GRADIENT		-.12643	-.05011	.00598	.00355	.00389	-.02586	.00000	.00107	.00000	-.02586

RUN NO. 64/ 0 RN/L = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYM	CVM	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	129.600	5.64270	.06080	-.26750	-.10230	-.20560	-.72120	.00000	.58060	.00000	-.72120
4.960	127.700	5.94120	.11160	-.28130	-.08680	-.23640	-.68190	.00000	.57920	.00000	-.68190
4.960	125.660	6.53710	.30300	-.30200	-.10240	-.25330	-.58760	.00000	.57440	.00000	-.58760
4.960	119.630	7.10600	.48960	-.31700	-.10710	-.27700	-.48690	.00000	.57560	.00000	-.48690
4.960	115.590	7.67680	.62750	-.34850	-.12490	-.28220	-.37450	.00000	.56810	.00000	-.37450
4.960	111.610	8.03890	.84300	-.36260	-.13500	-.28790	-.25850	.00000	.56420	.00000	-.25850
4.960	109.690	8.28190	.99200	-.36450	-.12500	-.28580	-.20200	.00000	.56160	.00000	-.20200
4.960	119.630	7.08000	.45010	-.29990	-.09300	-.26050	-.49280	.00000	.57170	.00000	-.49280
GRADIENT		-.13176	-.04570	.00502	.00198	.00427	-.02623	.00000	.00093	.00000	-.02623

REPRODUCIBILITY OF THE
ORIGINAL PAGE IS POOR

MSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(898022) (20 MAR 74)

REFERENCE DATA

REF = .7420 SA. IN YMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 REF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 90.000

RUN NO. 129/ 0 RN/L = 6.93 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
1.959	147.980	3.84290	-1.44340	-1.19200	-1.13000	-1.09490	.00000	.00000	.60250	.00000	-1.09490
1.959	145.960	4.18950	-1.40950	-1.18180	-1.07740	-1.06670	.00000	.00000	.59940	.00000	-1.06670
1.959	141.580	5.07690	-1.30450	-1.13600	.05480	-1.19150	.00000	.00000	.59290	.00000	-1.02710
1.959	137.230	5.83830	-1.25540	-1.07330	.08150	-1.22590	.00000	.00000	.59010	.00000	-1.04110
1.959	132.990	6.48700	-1.19600	-1.03390	.05850	-1.25420	.00000	.00000	.58660	.00000	-1.04200
1.959	128.820	7.04390	-1.03640	-1.05550	-.03140	-1.27760	.00000	.00000	.58330	.00000	-1.03290
1.959	126.830	7.28900	.00100	-1.06310	-.05830	-1.26750	.00000	.00000	.58240	.00000	-1.06740
1.959	137.410	5.95540	-1.27260	-1.06440	.09100	-1.22150	.00000	.00000	.59090	.00000	-1.03260
GRADIENT		-1.6446	-1.02094	-1.00710	.00158	.00694	-.01981	.00550	.00093	.00000	-.01981

RUN NO. 51/ 0 RN/L = 6.26 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
3.479	148.720	3.13060	-1.28180	-1.12270	.05150	-1.11780	-1.05000	.00000	.59810	.00000	-1.05000
3.479	146.740	3.44020	-1.25460	-1.13250	.05040	-1.13620	-1.02050	.00000	.59530	.00000	-1.02050
3.479	142.540	4.12030	-1.19730	-1.15360	.02080	-1.16280	-.05650	.00000	.59080	.00000	-.05650
3.479	136.370	4.78820	-1.13700	-1.18030	.00110	-1.18780	-.08130	.00000	.58740	.00000	-.08130
3.479	134.190	5.46420	-1.03370	-1.20950	-.02350	-1.20740	-.079630	.00000	.58420	.00000	-.079630
3.479	130.040	6.10540	.02830	-1.23330	-.04420	-1.23480	-.070670	.00000	.58160	.00000	-.070670
3.479	128.040	6.41190	.07480	-1.23530	-.03950	-1.25380	-.06510	.00000	.58040	.00000	-.06510
3.479	138.360	4.80060	-1.15020	-1.18040	.00410	-1.18550	-.08380	.00000	.58790	.00000	-.08380
GRADIENT		-1.15921	-1.01713	.00377	.00494	.00622	-.01873	.00550	.00084	.00000	-.01873

RUN NO. 50/ 0 RN/L = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	149.260	2.72160	-1.12240	-1.13780	.02220	-1.10910	-1.01060	.00000	.59030	.00000	-1.01060
4.960	147.330	3.01950	-1.07240	-1.15700	.02710	-1.11560	-.09670	.00000	.58650	.00000	-.09670
4.960	143.230	3.67290	-1.01990	-1.13800	.02560	-1.13310	-.092470	.00000	.58340	.00000	-.092470
4.960	139.150	4.35700	.05740	-1.21540	-.03400	-1.19810	-.09830	.00000	.58020	.00000	-.09830
4.960	135.070	5.00250	.12300	-1.24280	-.02150	-1.21220	-.077840	.00000	.57820	.00000	-.077840
4.960	131.020	5.64090	.21770	-1.25190	-.04600	-1.21650	-.09230	.00000	.57570	.00000	-.09230
4.960	129.080	5.93960	.25560	-1.26330	-.04290	-1.22870	-.064990	.00000	.57300	.00000	-.064990
4.960	139.150	4.32380	.03410	-1.21600	-.00230	-1.17820	-.086050	.00000	.58110	.00000	-.086050
GRADIENT		-1.16019	-1.01828	.00673	.00391	.00636	-.01794	.00550	.00571	.00000	-.01794



DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 563

MSFC 563 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

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(R99023) (20 MAR 74)

REFERENCE DATA

BREF = .7420 IN. YMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 90.000

PARAMETRIC DATA

RUN NO. 128/ 0 RN/L = 7.04 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
1.956	169.340	.75680	-.65810	-.08650	.00480	-.03010	-1.26670	.00000	.73350	.00000	-1.26670
1.956	167.340	.98550	-.67880	-.10520	-.00940	-.04120	-1.26530	.00000	.70210	.00000	-1.26530
1.956	163.120	1.56630	-.61700	-.15830	-.03050	-.05790	-1.24700	.00000	.65090	.00000	-1.24700
1.956	156.850	2.21580	-.54010	-.16560	-.04520	-.07950	-1.21710	.00000	.62480	.00000	-1.21710
1.956	154.510	2.99510	-.55210	-.17270	-.03750	-.11030	-1.18810	.00000	.61500	.00000	-1.18810
1.956	150.240	3.70310	-.51750	-.20890	-.03500	-.14170	-1.14960	.00000	.60670	.00000	-1.14960
1.956	146.210	4.04470	-.48350	-.20580	-.06310	-.14990	-1.11140	.00000	.60320	.00000	-1.11140
1.956	156.870	2.22250	-.53360	-.16270	-.03890	-.08380	-1.21350	.00000	.62420	.00000	-1.21350
GRADIENT		-.15734	-.00861	.00538	.00279	.00578	-.00710	.00000	.00576	.00000	-.00710

RUN NO. 48/ 0 RN/L = 6.26 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
3.479	169.520	.61470	-.44320	-.08900	.04090	-.01670	-1.23190	.00000	.70770	.00000	-1.23190
3.479	167.650	.77940	-.46050	-.09520	.04260	-.02990	-1.22690	.00000	.68510	.00000	-1.22690
3.479	163.470	1.18070	-.48100	-.10270	.04410	-.04320	-1.20060	.00000	.63320	.00000	-1.20060
3.479	159.340	1.63080	-.47380	-.10050	.05070	-.05430	-1.16750	.00000	.63290	.00000	-1.16750
3.479	155.200	2.18380	-.41720	-.10180	.06860	-.08730	-1.12910	.00000	.61560	.00000	-1.12910
3.479	151.060	2.78480	-.32150	-.10270	.05790	-.10760	-1.08130	.00000	.60250	.00000	-1.08130
3.479	149.080	3.09480	-.29460	-.09970	.06700	-.12670	-1.03490	.00000	.59900	.00000	-1.03490
3.479	159.340	1.63700	-.48050	-.10310	.05150	-.05700	-1.17030	.00000	.63340	.00000	-1.17030
GRADIENT		-.12132	-.00773	.00044	-.00130	.00513	-.00871	.00000	.00513	.00000	-.00871

RUN NO. 49/ 0 RN/L = 5.03 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	169.870	.50690	-.41180	-.10150	.05600	-.01740	-1.21020	.00000	.72360	.00000	-1.21020
4.960	167.750	.63000	-.43350	-.10840	.07720	-.01340	-1.20520	.00000	.70750	.00000	-1.20520
4.960	163.710	.94320	-.48440	-.10990	.05850	-.03510	-1.18950	.00000	.67170	.00000	-1.18950
4.960	159.840	1.33170	-.47600	-.11250	.06480	-.04160	-1.16070	.00000	.64360	.00000	-1.16070
4.960	155.580	1.85440	-.41590	-.12130	.05960	-.06480	-1.11310	.00000	.62140	.00000	-1.11310
4.960	151.540	2.43230	-.33070	-.12500	.05230	-.03360	-1.06690	.00000	.60590	.00000	-1.06690
4.960	149.600	2.76620	-.27070	-.07060	.09690	-.10870	-1.04340	.00000	.59950	.00000	-1.04340
4.960	159.840	1.35190	-.50120	-.11280	.07760	-.05430	-1.15350	.00000	.64690	.00000	-1.15350
GRADIENT		-.11248	-.00735	-.00035	-.00058	.00461	-.00844	.00000	.00621	.00000	-.00844

MSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99024) (20 MAR 74)

REFERENCE DATA

REF = .7420 IN. XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 RREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 90.000

PARAMETRIC DATA

RUN NO. 127/ 0 RN/L = 7.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CYN	CYM	CYNM	CBL	CA	CAB	XCP/L	CPB1	CPC
1.958	190.060	-.66590	-.56290	-.11010	-.09300	-.03110	.03590	-1.26300	.00000	.72930	.00000	-1.26300
1.958	198.090	-.47950	.47680	-.07240	-.00770	.03110	.03110	-1.26720	.00000	.75520	.00000	-1.26720
1.958	193.930	-.18710	.22960	-.03540	.00570	.01630	.01630	-1.27600	.00000	.79570	.00000	-1.27600
1.958	179.770	.05160	-.07830	-.02790	.00750	-.00070	-.00070	-1.26030	.00000	.83920	.00000	-1.26030
1.958	175.650	.26700	-.36440	-.03100	.02550	-.01400	-.01400	-1.26110	.00000	.81950	.00000	-1.26110
1.958	171.510	.56020	-.62690	-.05080	.01250	-.02500	-.02500	-1.27890	.00000	.77680	.00000	-1.27890
1.958	169.520	.75230	-.67790	-.06730	.00430	-.03470	-.03470	-1.26930	.00000	.73900	.00000	-1.26930
1.958	179.790	.04760	-.05010	-.02880	.02490	-.00060	-.00060	-1.23490	.00000	.91080	.00000	-1.23490
GRADIENT		-.06546	.06560	-.00167	-.00083	.00339	.00339	-.00028	.00000	-.00099	.00000	-.00028

RUN NO. 47/ 0 RN/L = 6.32 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CYN	CYM	CYNM	CBL	CA	CAB	XCP/L	CPB1	CPC
3.479	169.940	-.56430	.37290	-.09300	-.03110	.03490	.03490	-1.24550	.00000	.69730	.00000	-1.24550
3.479	167.990	-.41720	.32280	-.07840	.02960	.03270	.03270	-1.24910	.00000	.71680	.00000	-1.24910
3.479	163.910	-.17740	.17340	-.06210	.04920	.01610	.01610	-1.25420	.00000	.75230	.00000	-1.25420
3.479	179.820	.00220	-.04760	-.05000	.04890	.01100	.01100	-1.24810	.00000	4.29660	.00000	-1.24810
3.479	175.740	.22360	-.24020	-.06110	.03690	-.00330	-.00330	-1.25110	.00000	.76910	.00000	-1.25110
3.479	171.680	.45630	-.38760	-.06990	.03210	-.01060	-.01060	-1.24180	.00000	.73000	.00000	-1.24180
3.479	169.720	.60890	-.43740	-.07610	.03970	-.02430	-.02430	-1.23770	.00000	.70720	.00000	-1.23770
3.479	179.810	.03250	-.05190	-.05540	.05050	.00040	.00040	-1.25070	.00000	.85930	.00000	-1.25070
GRADIENT		-.05561	.04227	-.00266	-.00020	.00278	.00278	-.00041	.00000	-.00081	.00000	-.00041

RUN NO. 46/ 0 RN/L = 5.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CYN	CYM	CYNM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.980	169.810	-.44400	.35180	-.09620	.02930	.03610	.03610	-1.19730	.00000	.72010	.00000	-1.19730
4.980	167.920	-.36000	.27700	-.08520	.04600	.02780	.02780	-1.20530	.00000	.71610	.00000	-1.20530
4.980	163.880	-.16880	.23530	-.07520	.04860	.02900	.02900	-1.21300	.00000	.82460	.00000	-1.21300
4.980	179.820	.02550	-.04970	-.07010	.04320	.00090	.00090	-1.21460	.00000	.92040	.00000	-1.21460
4.980	175.790	.20490	-.22920	-.07100	.04500	-.01640	-.01640	-1.21470	.00000	.77680	.00000	-1.21470
4.980	171.780	.39730	-.35830	-.07790	.05450	-.01710	-.01710	-1.20860	.00000	.73910	.00000	-1.20860
4.980	169.870	.56700	-.41160	-.07300	.06590	-.01800	-.01800	-1.20130	.00000	.72350	.00000	-1.20130
4.980	179.820	.02890	-.05030	.05370	.14270	-.00650	-.00650	-1.21480	.00000	.88480	.00000	-1.21480
GRADIENT		-.04728	.04040	-.00088	-.00116	.00524	.00524	.00020	.00000	-.00009	.00000	.00020



DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 583

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MSFC 583 (TAIF) 524 IN. DIA. ET (418 MOD) W/GRIT

(R99025) (20 MAR 74)

REFERENCE DATA

BREF = .7420 SQ. IN XGRP = 3.2590 IN.
 LREF = .9720 IN. YGRP = .0000 IN.
 BREF = .9720 IN. ZGRP = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 199.000

PARAMETRIC DATA

RUN NO. 12/ 0 RINL = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNN	CLMM	CYN	CYNN	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	-9.790	-38150	-81640	-04680	.05570	.01110	.46480	.02250	.33060	.00000	.44230
4.960	-7.890	-43770	-66480	-04630	.04420	.00420	.46140	.02240	.33020	.00000	.43900
4.960	-3.630	-19640	-33990	-04480	.05340	.00470	.45270	.02100	.28180	.00000	.43160
4.960	.200	.03760	-03330	-02710	.03940	-.02640	.46230	.02060	.73620	.00000	.44160
4.960	4.260	.26660	.32190	-.03120	.05660	-.03090	.47760	.02160	.38730	.00000	.45590
4.960	8.280	.37530	.62850	-.02930	.07190	-.01830	.49420	.02300	.39270	.00000	.47110
4.960	10.200	.71250	.75120	-.02870	.06650	-.02470	.50250	.02370	.39930	.00000	.47870
4.960	.200	.05130	-.03710	-.03210	.05980	-.01280	.46020	.02190	.70810	.00000	.43620
GRADIENT		.05971	.08181	.00168	.00040	-.00440	.00308	.00007	.01292	.00000	.00300

MSFC 583 (TAIF) 524 IN. DIA. ET (418 MOD) W/GRIT

R99026) (20 MAR 74)

REFERENCE DATA

BREF = .7420 SQ. IN XGRP = 3.2590 IN.
 LREF = .9720 IN. YGRP = .0000 IN.
 BREF = .9720 IN. ZGRP = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 199.000

PARAMETRIC DATA

RUN NO. 11/ 0 RINL = 5.06 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNN	CLMM	CYN	CYNN	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	10.300	.72360	.73470	-.02260	.07790	-.03560	.51920	.02380	.40660	.00000	.49340
4.960	12.400	.86420	.90910	-.01590	.09740	-.04800	.52910	.02370	.39970	.00000	.50330
4.960	16.460	1.26100	1.12470	-.02410	.12730	-.04900	.56290	.02450	.42750	.00000	.53840
4.960	20.510	1.69810	1.31690	-.03180	.16330	-.05150	.59500	.02450	.44770	.00000	.57030
4.960	24.390	2.21700	1.48830	-.04960	.22110	-.08640	.62930	.02390	.46580	.00000	.60530
4.960	28.610	2.74810	1.65750	-.04080	.22080	-.10990	.65930	.02310	.47770	.00000	.63610
4.960	30.970	3.08010	1.73020	-.03850	.22100	-.10990	.67470	.02270	.48510	.00000	.65200
4.960	20.510	1.69820	1.31710	-.03200	.15700	-.06360	.59720	.02420	.44770	.00000	.57290
GRADIENT		.11716	.04792	-.00127	.00770	-.00387	.00789	-.00003	.00431	.00000	.00794

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MSFC 583 (TAIF) 324 IN. DIA. ET (41B MOD) W/GRI1

(R99027) (20 MAR 74)

REFERENCE DATA

BREF = .7420 54. IN XGRP = 3.2590 IN.
 LREF = .9720 IN. YGRP = .0000 IN.
 BREF = .9720 IN. ZGRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 135.000

RUN NO. 85/ 0 RN/L = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLNM	CYN	CYMH	CBL	CA	CAB	XCP/L	CFB1	CPC
4.960	50.380	5.99350	2.74390	.08160	.31870	-.22790	.72400	.00000	.49720	.00000	.72400
4.960	52.290	5.85150	2.64760	.11720	.31780	-.25260	.72090	.00000	.49790	.00000	.72090
4.960	56.320	6.42090	2.97630	.16050	.30880	-.27210	.69290	.00000	.50190	.00000	.69290
4.960	60.360	6.90870	3.12480	.20830	.27960	-.29940	.64370	.00000	.50390	.00000	.64370
4.960	64.400	7.31590	3.31790	.25070	.28420	-.31210	.58720	.00000	.50370	.00000	.58720
4.960	66.370	7.65420	3.39850	.28080	.26520	-.34360	.52250	.00000	.50530	.00000	.52250
4.960	70.280	7.85730	3.50100	.30980	.23990	-.35250	.47400	.00000	.50510	.00000	.47400
4.960	60.340	6.90340	3.20260	.21950	.27760	-.30020	.64860	.00000	.50190	.00000	.64860
GRADIENT		.11291	.03707	.01098	-.00363	-.00593	-.01252	.00000	.00040	.00000	-.01252

MSFC 583 (TAIF) 324 IN. DIA. ET (41B MOD) W/GRI1

(R99028) (20 MAR 74)

REFERENCE DATA

BREF = .7420 54. IN XGRP = 3.2590 IN.
 LREF = .9720 IN. YGRP = .0000 IN.
 BREF = .9720 IN. ZGRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 135.000

RUN NO. 86/ 0 RN/L = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLNM	CYN	CYMH	CBL	CA	CAB	XCP/L	CFB1	CPC
4.960	60.340	6.32730	3.28420	.26730	.20320	-.37000	.28820	.00000	.51390	.00000	.28820
4.960	62.440	6.37900	3.21470	.29550	.17690	-.39620	.21280	.00000	.51580	.00000	.21280
4.960	66.430	6.50920	3.04050	.31900	.16330	-.39720	.01670	.00000	.52040	.00000	.01670
4.960	90.430	6.54480	2.81420	.36790	.04700	-.41390	-.19400	.00000	.52920	.00000	-.19400
4.960	94.440	6.57770	2.43750	.37860	-.01010	-.40640	-.39410	.00000	.53270	.00000	-.39410
4.960	98.410	6.54210	2.13230	.38980	-.02200	-.40680	-.52850	.00000	.53910	.00000	-.52850
4.960	100.300	6.44370	1.97140	.38220	-.08620	-.40570	-.61440	.00000	.54190	.00000	-.61440
4.960	95.430	6.52840	2.77820	.36770	.04670	-.40800	-.19060	.00000	.52990	.00000	-.19060
GRADIENT		.00769	-.06749	.00600	-.01449	-.00134	-.04645	.00000	.00144	.00000	-.04645



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TABULATED SOURCE DATA, NSFC TWT 583

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NSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99028) (20 MAR 74)

REFERENCE DATA

REF = .7420 SQ. IN WARP = 3.2590 IN.
 LRD = .9720 IN. YARP = .0000 IN.
 BRP = .9720 IN. ZARP = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 135.000

PARAMETRIC DATA

RUN NO. 66/ 0 RN/L = 4.94 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CAN	CLIN	CYM	CBL	CA	CAB	KEPL	CP81	CPC
4.960	129.640	4.99230	.17710	.08190	-.16140	-.20910	-.76650	.57630	.00000	-.76630
4.960	127.740	5.27760	.26860	.10200	-.11910	-.23040	-.72400	.57360	.00000	-.72400
4.960	123.700	5.79510	.35450	.13370	-.13750	-.25820	-.61970	.57180	.00000	-.61970
4.960	119.660	6.29610	.50770	.13090	-.11930	-.28040	-.51500	.56840	.00000	-.51500
4.960	115.630	6.60900	.67330	.14420	-.11400	-.31220	-.39430	.56530	.00000	-.39430
4.960	111.640	7.21590	.86050	.15260	-.12100	-.33160	-.26770	.56130	.00000	-.26770
4.960	109.730	7.43160	1.03400	.15630	-.09910	-.33980	-.20710	.55830	.00000	-.20710
4.960	119.660	6.30900	.53020	.12620	-.20730	-.27630	-.51510	.56790	.00000	-.51510
GRADIENT	-.12203	-.04090	-.00330	-.00172	.00648	-.02817		.00084	.00000	-.02817

REFERENCE DATA

REF = .7420 SQ. IN WARP = 3.2590 IN.
 LRD = .9720 IN. YARP = .0000 IN.
 BRP = .9720 IN. ZARP = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 135.000

PARAMETRIC DATA

NSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99030) (20 MAR 74)

RUN NO. 43/ 0 RN/L = 5.14 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CAN	CLIN	CYM	CBL	CA	CAB	KEPL	CP81	CPC
4.960	149.290	2.51710	-.08910	-.08190	-.10170	-1.08360	.00000	.58860	.00000	-1.08360
4.960	147.350	2.60350	-.06400	-.07800	-.09760	-1.06230	.00000	.58640	.00000	-1.06230
4.960	143.270	3.35960	.00080	-.06900	-.13990	-.99510	.00000	.58240	.00000	-.99510
4.960	139.200	3.93200	.05200	-.03250	-.13440	-.91900	.00000	.58010	.00000	-.91900
4.960	135.140	4.47850	.13250	.03260	-.13180	-.83460	.00000	.57730	.00000	-.83460
4.960	131.090	5.02050	.21360	.08110	-.13650	-.74570	.00000	.57510	.00000	-.74570
4.960	129.160	5.29090	.25430	.10210	-.12540	-.70390	.00000	.57410	.00000	-.70390
4.960	139.200	3.90430	.01680	-.02080	-.13760	-.91830	.00000	.56170	.00000	-.91830
GRADIENT	-.13724	-.01698	-.00967	.00142	.00779	-.01916		.00070	.00000	-.01916

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99032) (20 MAR 74)

REFERENCE DATA

BREF = .7420 34. IN XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 135.000

RUN NO. 44/ 0 RVL = 5.08 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMH	CYN	CYL	CA	CAB	KCPA	CPBI	CPC
4.960	169.670	.49510	-.49040	-.05440	.01700	-1.23440	.00000	.75450	.00000	-1.23440
4.960	167.750	.64500	-.49830	-.05510	.01080	-1.22770	.00000	.71670	.00000	-1.22770
4.960	163.690	.95900	-.52880	-.03140	.01570	-1.21080	.00000	.67820	.00000	-1.21080
4.960	159.650	1.31170	-.47430	-.06470	-.00010	-1.18350	.00000	.64530	.00000	-1.18350
4.960	155.600	1.77260	-.33330	-.05560	-.05640	-1.15180	.00000	.61510	.00000	-1.15180
4.960	151.560	2.31540	-.20280	-.07550	-.07080	-1.11240	.00000	.59770	.00000	-1.11240
4.960	149.630	2.58670	-.15040	-.06560	-.07490	-1.09350	.00000	.59250	.00000	-1.09350
4.960	159.650	1.29790	-.46010	-.05880	-.00840	-1.10610	.00000	.64400	.00000	-1.10610
GRADIENT	-.10360	-.01897	.00485	.00081	.00430	-.00709	.00500	.00779	.00000	-.00709

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99032) (20 MAR 74)

REFERENCE DATA

BREF = .7420 34. IN XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 135.000

RUN NO. 43/ 0 RVL = 5.10 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMH	CYN	CYL	CA	CAB	KCPA	CPBI	CPC
4.960	169.610	-.40190	.28270	-.06610	.03430	-1.16780	.00000	.70460	.00000	-1.16780
4.960	167.910	-.27860	.25910	-.06690	.01690	-1.17660	.00000	.73150	.00000	-1.17660
4.960	163.840	-.08560	.10780	-.05840	-.00370	-1.19340	.00000	.80120	.00000	-1.19340
4.960	179.810	.08070	-.07110	-.04730	-.00980	-1.21320	.00000	.73560	.00000	-1.21320
4.960	175.790	.23310	-.24750	-.04760	-.00280	-1.22670	.00000	.76690	.00000	-1.22670
4.960	171.780	.41260	-.42780	-.04220	-.01250	-1.22870	.00000	.76260	.00000	-1.22870
4.960	169.660	.54890	-.42090	-.04340	-.01940	-1.22950	.00000	.71560	.00000	-1.22950
4.960	179.820	.03240	.02250	-.04670	-.02650	-1.21350	.00000	.50770	.00000	-1.21350
GRADIENT	-.04321	.03825	-.00140	.00224	.00211	.00321	.00550	-.00061	.00000	.00321

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TABULATED SOURCE DATA, MSFC TWT 583

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MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99033) (20 MAR 74)

REFERENCE DATA

REF = .7420 IN. INREP = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 REF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 180.000

RUN NO. 137/ 0 RV/L = 6.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYN	CYM	CBL	CA	CAB	XCP/L	CPB1	CPC
1.960	-10.050	-.56250	-1.18270	.00630	-.00470	-.00250	.71050	.09030	.22980	.00000	.62010
1.960	-8.060	-.41530	-.95550	.01050	-.00370	.00420	.69030	.08560	.18290	.00000	.50480
1.960	-3.910	-.13900	-.53450	.00810	-.01680	-.00050	.67710	.08280	-.08520	.00000	.59430
1.960	.240	.10660	-.11990	.00200	-.02720	-.00330	.69270	.08310	.77790	.00000	.60990
1.960	4.390	.36750	.32830	-.00370	-.02960	.00120	.72910	.09390	.42730	.00000	.63920
1.960	6.920	.66820	.74440	-.01040	-.01490	.00760	.74470	.09450	.38690	.00000	.65010
1.960	10.520	.87110	.92220	-.01430	-.01440	.00930	.76390	.10290	.39850	.00000	.66100
1.960	.220	.11170	-.09560	.00080	-.00740	.00360	.68460	.08440	.73110	.00000	.60040
GRADIENT		.06102	.10395	-.00142	-.00154	.00020	.00627	.00134	.06175	.00000	.00493

RUN NO. 16/ 0 RV/L = 6.32 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYN	CYM	CBL	CA	CAB	XCP/L	CPB1	CPC
3.479	-9.930	-.54610	-.93550	.00460	.00000	-.00950	.54190	.04670	.33170	.00000	.49310
3.479	-7.990	-.48270	-.78410	.00300	.00170	-.00160	.54330	.04640	.30030	.00000	.49690
3.479	-3.870	-.16710	-.41990	-.00830	-.00930	-.00230	.54710	.04390	.19270	.00000	.50310
3.479	.210	.06580	-.03720	-.00990	-.01720	-.01100	.53190	.04190	.73360	.00000	.51000
3.479	4.320	.33140	.34300	-.01110	-.01050	.00470	.56090	.04330	.40270	.00000	.51760
3.479	6.400	.83290	.66980	-.01200	-.01020	.00450	.58070	.04680	.40040	.00000	.53180
3.479	10.360	.82810	.76650	-.01640	-.02820	-.00460	.56930	.04940	.41750	.00000	.53980
3.479	.210	.07160	-.03900	.00010	-.01960	-.01420	.55210	.04170	.72550	.00000	.51040
GRADIENT		.06331	.09316	-.00034	-.00014	.00086	.00169	-.00007	.02551	.00000	.00177

RUN NO. 13/ 0 RV/L = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYN	CYM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	-9.600	-.55570	-.81150	.00400	.03740	-.01960	.45340	.02190	.32880	.00000	.43340
4.960	-7.890	-.43240	-.67260	.00150	.01420	.00000	.44790	.02160	.31220	.00000	.42820
4.960	-3.850	-.17100	-.36110	-.00150	.03350	-.02230	.44390	.02030	.21580	.00000	.42950
4.960	.200	.03050	-.03700	.00110	.03260	-.02610	.46450	.02090	.70970	.00000	.44350
4.960	4.260	.51320	.34200	-.02030	.02830	.00100	.47710	.02190	.39280	.00000	.45320
4.960	6.260	.57430	.60440	-.01980	-.00790	-.01970	.49450	.02340	.39960	.00000	.47100
4.960	10.200	.73880	.73370	-.02460	-.01190	-.02580	.50480	.02360	.41000	.00000	.48110
4.960	.200	.05010	-.04960	.00100	-.00030	.00030	.46270	.02210	.75450	.00000	.44060
GRADIENT		.05986	.08692	-.00393	-.00064	.00289	.00410	.00020	.02175	.00000	.00392

DATE 03 AUG 74

TABULATED SOURCE DATA, NSFC TWT 583

PAGE 26

NSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(899034) (20 MAR 74)

REFERENCE DATA

3REF = .7420 IN. IN WARP = 3.2590 IN.
 1REF = .9720 IN. IN WARP = .0000 IN.
 0REF = .9720 IN. IN WARP = .0000 IN.
 SCALE = .5030

PARAMETRIC DATA

BETA = .000 PHI = 180.000

RUN NO. 138/ 0 RNL = 6.94 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYM	CYNM	CBL	CA	CAB	XCP/L	CPBI	CPC
1.962	10.800	.67090	.92220	.01690	.01850	.00750	.76530	.10380	.39850	.00000	.66140
1.962	12.800	1.11550	1.06520	.02160	.00860	.00650	.77650	.11010	.41670	.00000	.66630
1.962	17.040	1.73630	1.34950	.02510	-.00720	.00680	.79970	.12280	.44740	.00000	.67690
1.962	21.320	2.36220	1.71420	.02350	-.01590	.01640	.81540	.13000	.45640	.00000	.68540
1.962	25.580	3.05620	2.06070	.01700	-.02200	.01850	.82520	.13370	.46340	.00000	.69150
1.962	29.810	3.64260	2.34660	-.01440	-.01460	.02340	.80990	.12980	.47050	.00000	.68000
1.962	31.830	3.93790	2.48350	-.03470	-.02080	.02550	.80870	.13040	.47350	.00000	.67820
1.962	21.270	2.34250	1.68640	.01480	-.02030	.01330	.80000	.12850	.45780	.00000	.67140
GRADIENT		.14758	.07546	-.00236	-.00168	.00095	.00211	.00123	.00327	.00000	.00088

RUN NO. 15/ 0 RNL = 6.32 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYM	CYNM	CBL	CA	CAB	XCP/L	CPBI	CPC
3.478	10.650	.82670	.80330	.00710	.00660	-.00260	.59300	.04930	.41410	.00000	.54370
3.478	12.960	1.02380	.93510	.00590	.01380	-.00200	.60620	.05020	.42380	.00000	.55590
3.478	16.750	1.44630	1.19950	-.00160	.01500	.00080	.63410	.05020	.43840	.00000	.56380
3.478	20.640	1.91040	1.44760	-.00930	-.00110	.00220	.66390	.04960	.45080	.00000	.56120
3.478	25.000	2.42910	1.68200	-.02120	.00260	.00800	.69490	.04890	.46220	.00000	.56400
3.478	29.120	2.97840	1.88540	-.03330	-.01220	.01920	.72950	.04670	.47240	.00000	.56270
3.478	31.090	3.25050	1.99280	-.03920	-.01290	.01790	.74250	.04620	.47600	.00000	.56620
3.478	20.840	1.88660	1.45360	-.01930	.00990	.00610	.66390	.04950	.44860	.00000	.56130
GRADIENT		.11836	.05793	-.00231	-.00125	.00100	.00737	-.00017	.00298	.00000	.00734

RUN NO. 14/ 0 RNL = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYM	CYNM	CBL	CA	CAB	XCP/L	CPBI	CPC
4.960	10.500	.73920	.75910	.00980	.01240	-.03680	.51460	.02340	.40410	.00000	.49110
4.960	12.400	.91720	.89800	.00550	.02740	-.00060	.53170	.02360	.41240	.00000	.50810
4.960	16.460	1.27290	1.11090	.00730	.01630	-.04820	.56740	.02370	.43090	.00000	.54360
4.960	20.510	1.70910	1.29180	.01000	.01090	.00340	.60430	.02390	.45120	.00000	.58060
4.960	24.590	2.22760	1.45290	-.00890	.02330	.00520	.65900	.02420	.46920	.00000	.63080
4.960	28.630	2.74640	1.64020	-.03370	.03110	.01840	.70290	.02340	.47870	.00000	.67940
4.960	30.260	2.97730	1.68870	-.02740	-.00840	.00900	.71930	.02220	.48390	.00000	.69700
4.960	20.310	1.69630	1.28170	-.00690	.01320	-.05940	.60210	.02390	.45120	.00000	.57810
GRADIENT		.11251	.04575	-.00207	-.00041	.00227	.01036	-.00053	.00408	.00000	.01041



DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 503

PAGE 27

MSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99035) (20 MAR 74)

REFERENCE DATA

REF = .7420 IN. XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 180.000

RUN NO. 101/ 0 RV/L = 7.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMH	CBL	CA	CAB	KCP/L	CPB1	CPC
1.945	51.190	6.03300	3.67070	.01420	.02510	.05110	.62830	.00000	.47680	.00000	.62830
1.945	53.090	6.21980	3.70490	.01670	.00900	.05150	.61850	.00000	.47900	.00000	.61850
1.945	57.180	6.64960	3.85030	.02410	-.00800	.06030	.60140	.00000	.48190	.00000	.60140
1.945	61.240	7.03810	3.82190	.04300	-.04020	.06310	.65500	.00000	.48810	.00000	.65500
1.945	65.300	7.38720	3.77760	.03670	-.05480	.06620	.60980	.00000	.49360	.00000	.60980
1.945	69.310	7.66820	3.78460	.04050	-.04070	.07480	.50730	.00000	.49670	.00000	.50730
1.945	71.220	7.75410	3.72030	.03790	-.04020	.07520	.44110	.00000	.49910	.00000	.44110
1.945	81.190	8.86150	3.67630	.03540	-.03550	.06120	.64990	.00000	.48940	.00000	.64990
GRADIENT		.08761	.00234	.00132	-.00342	.00124	-.00750	.00000	.00113	.00000	-.00750

RUN NO. 83/ 0 RV/L = 6.33 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMH	CBL	CA	CAB	KCP/L	CPB1	CPC
3.479	50.750	5.61540	2.78240	-.05270	-.04260	.05590	.71990	.00000	.49640	.00000	.71990
3.479	52.660	5.81030	2.89100	-.04660	-.05490	.05720	.72180	.00000	.49600	.00000	.72180
3.479	56.710	6.31460	3.07990	-.02810	-.08130	.06480	.73280	.00000	.49770	.00000	.73280
3.479	60.730	6.70380	3.22980	-.04430	-.07980	.07110	.67660	.00000	.49880	.00000	.67660
3.479	64.810	7.02960	3.34010	-.03780	-.10110	.07700	.63110	.00000	.49990	.00000	.63110
3.479	68.820	7.31320	3.49670	-.05010	-.05110	.08220	.57150	.00000	.49940	.00000	.57150
3.479	70.730	7.45160	3.49900	-.06680	-.04430	.08630	.53110	.00000	.50090	.00000	.53110
3.479	80.750	8.67950	3.22440	-.03990	-.08380	.06750	.67980	.00000	.49860	.00000	.67980
GRADIENT		.09193	.03610	-.00056	-.00019	.00153	-.00944	.00000	.00022	.00000	-.00944

RUN NO. 84/ 0 RV/L = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMH	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	50.370	5.50420	2.39410	-.09700	-.05670	.06070	.79500	.00000	.50690	.00000	.79500
4.960	52.260	5.72550	2.53540	-.10180	-.06090	.06060	.77830	.00000	.50550	.00000	.77830
4.960	56.300	6.21500	2.71220	-.09840	-.06030	.07240	.76340	.00000	.50660	.00000	.76340
4.960	60.320	6.64020	2.94310	-.08450	-.03540	.07840	.70870	.00000	.50550	.00000	.70870
4.960	64.360	6.96710	3.14470	-.06830	-.05930	.08430	.65020	.00000	.50400	.00000	.65020
4.960	68.350	7.23720	3.27900	-.10870	-.03400	.08180	.56630	.00000	.50370	.00000	.56630
4.960	70.260	7.38550	3.29180	-.10220	-.04200	.08280	.52320	.00000	.50300	.00000	.52320
4.960	80.320	8.61130	2.94940	-.08480	-.06160	.07780	.71300	.00000	.50300	.00000	.71300
GRADIENT		.09425	.04630	-.00019	.00102	.00150	-.01349	.00000	-.00012	.00000	-.01349

DATE 03 AUG 74

TABULATED SOURCE DATA, NSFC TWT 503

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NSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99036) (20 MAR 74)

REFERENCE DATA

REF = .7420 SQ. IN. WARP = 3.2590 IN.
 LREF = .9720 IN. WARP = .0000 IN.
 BREF = .9720 IN. ZWARP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 180.000

RUN NO. 102/ 0 RN/L = 6.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMH	CBL	CA	CAB	KCP/L	CFB1	CPC
1.957	81.360	8.19170	3.17500	.06720	-.10430	.07620	-.02350	.00000	.51510	.00000	-.02350
1.957	83.250	8.37030	3.11500	.07180	-.10740	.07800	-.13690	.00000	.51780	.00000	-.13690
1.957	87.250	8.49710	2.79270	.08000	-.10560	.08270	-.29940	.00000	.52540	.00000	-.29940
1.957	91.220	8.53890	2.39430	.09120	-.09880	.07850	-.41820	.00000	.53370	.00000	-.41820
1.957	95.210	8.55000	2.03720	.09730	-.07920	.08240	-.52350	.00000	.54110	.00000	-.52350
1.957	99.140	8.46690	1.71660	.09940	-.06240	.07960	-.63090	.00000	.54720	.00000	-.63090
1.957	101.020	8.36270	1.57030	.09730	-.06060	.07840	-.68000	.00000	.54980	.00000	-.68000
1.957	91.210	8.55460	2.39500	.09120	-.09540	.08440	-.41610	.00000	.53350	.00000	-.41610
GRADIENT		.00760	-.08511	.00166	.00253	.00010	-.03210	.00000	.00181	.00000	-.03210

RUN NO. 82/ 0 RN/L = 6.33 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMH	CBL	CA	CAB	KCP/L	CFB1	CPC
3.479	80.930	7.66810	3.28030	-.08170	-.05990	.10810	.28930	.00000	.51000	.00000	.28930
3.479	82.030	7.89350	3.21360	-.06210	-.09680	.10980	.21140	.00000	.51170	.00000	.21140
3.479	86.610	7.97450	3.07060	-.04430	-.12790	.11540	.00440	.00000	.51560	.00000	.00440
3.479	90.820	7.98100	2.71050	-.05280	-.08780	.11550	-.24080	.00000	.52350	.00000	-.24080
3.479	94.610	7.96310	2.26630	-.07560	-.00880	.11150	-.42780	.00000	.53300	.00000	-.42780
3.479	98.760	7.86010	1.86360	-.05690	.03970	.11360	-.57040	.00000	.54130	.00000	-.57040
3.479	100.640	7.80330	1.71610	-.05670	.05030	.10460	-.64470	.00000	.54420	.00000	-.64470
3.479	90.820	7.89610	2.72590	-.04610	-.09800	.11000	.25000	.00000	.50350	.00000	-.24090
GRADIENT		-.00268	-.08326	.00052	.00750	-.00006	-.04865	.00000	.00182	.00000	-.04865

RUN NO. 81/ 0 RN/L = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMH	CBL	CA	CAB	KCP/L	CFB1	CPC
4.980	80.910	7.71790	3.10710	-.13940	-.04790	.11290	.34620	.00000	.51250	.00000	.34620
4.980	82.390	7.76100	3.05940	-.12770	-.04460	.10120	.27770	.00000	.51410	.00000	.27770
4.980	86.410	7.86020	2.92620	-.11610	-.07440	.11080	.09410	.00000	.51780	.00000	.09410
4.980	90.400	7.81330	2.72980	-.09380	-.08800	.12140	-.11410	.00000	.52180	.00000	-.11410
4.980	94.410	7.81090	2.31090	-.11520	-.06710	.10830	-.34860	.00000	.53110	.00000	-.34860
4.980	98.380	7.77430	1.80720	-.19170	.03390	.11370	-.52140	.00000	.53980	.00000	-.52140
4.980	100.270	7.68890	1.75310	-.10070	.06640	.10350	-.60060	.00000	.54280	.00000	-.60060
4.980	90.400	7.77460	2.71500	-.08840	-.08930	.11530	-.10680	.00000	.52180	.00000	-.10680
GRADIENT		-.00096	-.07044	.00055	.00547	.00005	-.04933	.00000	.00157	.00000	-.04933



DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 583

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MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99037) (20 MAR 74)

REFERENCE DATA

GREY = .7420 IN. YMRP = 3.2590 IN.
 LRF = .9720 IN. YMRP = .0000 IN.
 BRP = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 180.000

RUN NO. 108/ 0 RN/L = 6.99 GRADIENT INTERVAL = -5.00/ 5.00

MACM	ALPHA	CNM	CLMM	CYM	CYHM	CBL	CA	CAB	XCP/L	CPB1	CPC
1.933	126.960	5.11990	-3.2270	-.01200	.07460	.03660	-.64390	.00000	.59340	.00000	-.64390
1.933	127.030	5.37000	-.25370	-.01850	.06200	.03740	-.60050	.00000	.59070	.00000	-.60050
1.933	122.950	5.66890	-.08160	-.01670	.06180	.03840	-.49750	.00000	.58490	.00000	-.49750
1.933	118.660	6.46540	.13590	-.00910	.06380	.04410	-.41290	.00000	.57880	.00000	-.41290
1.933	114.690	6.89560	.53760	-.01500	.02310	.04290	-.31270	.00000	.56890	.00000	-.31270
1.933	110.790	7.22630	.88050	.01070	.04490	.04880	-.15300	.00000	.56130	.00000	-.15300
1.933	106.880	7.36400	1.04320	.00790	.04410	.04820	-.05930	.00000	.55780	.00000	-.05930
1.933	116.920	6.24460	.23780	-.01080	.05400	.03840	-.42710	.00000	.57580	.00000	-.42710
GRADIENT		-.11395	-.06933	-.00121	.00164	-.00062	-.02795	.00000	.00180	.00000	-.02795

RUN NO. 68/ 0 RN/L = 6.22 GRADIENT INTERVAL = -5.00/ 5.00

MACM	ALPHA	CNM	CLMM	CYM	CYHM	CBL	CA	CAB	XCP/L	CPB1	CPC
3.479	129.340	4.67060	-.07530	-.08730	.08930	.07250	-.73710	.00000	.58330	.00000	-.73710
3.479	127.410	4.91510	-.01430	-.10170	.08400	.08040	-.69100	.00000	.58300	.00000	-.69100
3.479	123.370	5.40960	.16580	-.11580	.10540	.08800	-.56610	.00000	.57710	.00000	-.56610
3.479	119.310	5.93090	.31340	-.13970	.09890	.09590	-.44490	.00000	.57330	.00000	-.44490
3.479	115.250	6.39050	.53780	-.16820	.08220	.10650	-.33480	.00000	.56780	.00000	-.33480
3.479	111.250	6.80890	.85450	-.19880	.04890	.10810	-.22000	.00000	.56070	.00000	-.22000
3.479	109.340	6.91350	1.05170	-.19940	.03560	.11130	-.15950	.00000	.55650	.00000	-.15950
3.479	116.310	5.92480	.29710	-.14710	.08020	.09480	-.44240	.00000	.57370	.00000	-.44240
GRADIENT		-.11475	-.05390	.00583	.00253	-.00189	-.02894	.00000	.00139	.00000	-.02894

RUN NO. 67/ 0 RN/L = 4.90 GRADIENT INTERVAL = -5.00/ 5.00

MACM	ALPHA	CNM	CLMM	CYM	CYHM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	129.650	4.59850	-.09400	-.13870	.09600	.10150	-.77010	.00000	.57890	.00000	-.77010
4.960	127.740	4.85630	.16420	-.14100	.08070	.11650	-.72250	.00000	.57660	.00000	-.72250
4.960	123.770	5.37060	.31720	-.16780	.09900	.10240	-.61550	.00000	.57220	.00000	-.61550
4.960	119.700	5.81670	.45430	-.19320	.07980	.12630	-.48610	.00000	.56890	.00000	-.48610
4.960	115.660	6.31670	.68720	-.20880	.10640	.11730	-.36520	.00000	.56360	.00000	-.36520
4.960	111.670	6.69380	.91170	-.22290	.10790	.12200	-.22570	.00000	.55980	.00000	-.22570
4.960	109.760	6.88110	1.10590	-.23470	.05920	.13720	-.16630	.00000	.55450	.00000	-.16630
4.960	119.700	5.81710	.45420	-.17630	.09330	.11950	-.48620	.00000	.56890	.00000	-.48620
GRADIENT		-.11485	-.04886	.00495	-.00078	-.00128	-.03062	.00000	.00117	.00000	-.03062

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GR1Y

(R99036) (20 MAR 74)

REFERENCE DATA

BACP = .7420 IN. XCRP = 3.2590 IN.
 LRLY = .9720 IN. YCRP = .0000 IN.
 BACP = .9720 IN. ZCRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 100.000

RUN NO. 124/ 0 RNVL = 6.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYM	CYNM	CBL	CA	CAB	XCP/L	CFB1	CPC
1.944	148.190	3.34560	-.29590	-.08620	.01960	.02500	-1.12190	.00000	.59780	.00000	-1.12190
1.944	146.180	3.62500	-.24060	-.10820	-.00520	.02670	-1.09410	.00000	.59400	.00000	-1.09410
1.944	141.860	4.38580	-.12240	-.14100	.00690	.03320	-1.04110	.00000	.58730	.00000	-1.04110
1.944	137.560	5.09850	-.02780	-.14000	.07330	.03720	-.96750	.00000	.58340	.00000	-.96750
1.944	133.330	5.65700	.05820	-.09290	.07490	.03710	-.85430	.00000	.58070	.00000	-.85430
1.944	129.150	6.19490	.08830	-.06520	.03490	.04200	-.73570	.00000	.58000	.00000	-.73570
1.944	127.170	6.37820	.13120	-.04600	.05520	.04350	-.68210	.00000	.57890	.00000	-.68210
1.944	137.720	4.85020	-.04860	-.10560	.03580	.03460	-.94430	.00000	.58420	.00000	-.94430
GRADIENT		-.14717	-.02005	-.00245	-.00293	-.00085	-.02104	.00000	.00086	.00000	-.02104

RUN NO. 42/ 0 RNVL = 6.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYM	CYNM	CBL	CA	CAB	XCP/L	CFB1	CPC
3.479	148.860	2.65140	-.23020	-.04000	.04170	.01910	-1.11120	.00000	.59750	.00000	-1.11120
3.479	146.890	2.90200	-.21760	-.03420	.05610	.02560	-1.08480	.00000	.59350	.00000	-1.08480
3.479	142.730	3.42470	-.20030	-.04340	.06640	.02940	-1.01760	.00000	.59260	.00000	-1.01760
3.479	136.590	3.95970	-.14960	-.04160	.08590	.04300	-.93960	.00000	.58900	.00000	-.93960
3.479	134.440	4.31830	-.07840	-.05040	.09210	.04960	-.84820	.00000	.58550	.00000	-.84820
3.479	130.330	5.03420	.02230	-.05410	.10770	.05290	-.74890	.00000	.58170	.00000	-.74890
3.479	128.370	5.29470	.09800	-.06090	.10280	.05550	-.70150	.00000	.57920	.00000	-.70150
3.479	136.580	3.97240	-.17430	-.03410	.09560	.04230	-.93980	.00000	.59010	.00000	-.93980
GRADIENT		-.12918	-.01534	.00105	-.00304	-.00179	-.02013	.00000	.00087	.00000	-.02013

RUN NO. 41/ 0 RNVL = 5.30 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYM	CYNM	CBL	CA	CAB	XCP/L	CFB1	CPC
4.960	149.310	2.28920	-.19360	-.06630	.04650	.03510	-1.10490	.00000	.59710	.00000	-1.10490
4.960	147.390	2.50590	-.15860	-.06200	.04440	.04670	-1.07960	.00000	.59340	.00000	-1.07960
4.960	143.300	3.05160	-.14080	-.07180	.07140	.04410	-1.01930	.00000	.59030	.00000	-1.01930
4.960	139.240	3.55390	-.06810	-.08030	.05360	.06250	-.94430	.00000	.58570	.00000	-.94430
4.960	135.180	4.08250	-.03160	-.10730	.08580	.05910	-.85880	.00000	.58380	.00000	-.85880
4.960	131.140	4.59860	.08100	-.12160	.06310	.06610	-.75760	.00000	.57940	.00000	-.75760
4.960	129.210	4.86830	.16170	-.12930	.07050	.07670	-.70980	.00000	.57670	.00000	-.70980
4.960	139.240	3.55330	-.09150	-.08040	.06020	.06770	-.94340	.00000	.58690	.00000	-.94340
GRADIENT		-.12836	-.01624	.00343	-.00123	-.00173	-.01972	.00000	.00094	.00000	-.01972



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TABULATED SOURCE DATA, NSFC TWT 583

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(R99039) (20 MAR 74)

REFERENCE DATA

SREF = .7420 IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 180.000

RUN NO. 125/ 0 RML = 7.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYN	CYM	CBL	CA	CAB	XCP/L	CPBL	CPC
1.947	169.370	.68090	-.63610	-.02700	-.01150	.00180	-1.29360	.00000	.74470	.00000	-1.29360
1.947	167.390	.87630	-.63310	-.03170	-.00860	.00150	-1.29340	.00000	.70790	.00000	-1.29340
1.947	163.130	1.40240	-.57230	-.04040	-.00260	.00390	-1.27790	.00000	.65330	.00000	-1.27790
1.947	158.950	1.95870	-.52570	-.03540	.00490	.00510	-1.24920	.00000	.62910	.00000	-1.24920
1.947	154.680	2.59350	-.48610	-.02420	.02500	.01360	-1.23190	.00000	.61500	.00000	-1.23190
1.947	150.470	3.18820	-.37970	-.07500	.00240	.01800	-1.17280	.00000	.60310	.00000	-1.17280
1.947	146.460	3.48090	-.31590	-.07220	.00920	.01720	-1.14290	.00000	.59820	.00000	-1.14290
1.947	138.980	1.95020	-.50250	-.03210	.00370	.00510	-1.23560	.00000	.62720	.00000	-1.23560
GRADIENT		-.13545	-.01472	.00194	-.00108	-.00064	-.00702	.00000	.00648	.00000	-.00702

RUN NO. 39/ 0 RML = 6.32 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYN	CYM	CBL	CA	CAB	XCP/L	CPBL	CPC
3.479	169.520	.62390	-.45590	-.02090	-.00770	-.00120	-1.27960	.00000	.70940	.00000	-1.27960
3.479	167.600	.75790	-.46900	-.01640	-.01480	.00710	-1.27490	.00000	.68990	.00000	-1.27490
3.479	163.590	1.06790	-.48230	-.02370	-.00480	.00610	-1.25310	.00000	.66090	.00000	-1.25310
3.479	159.400	1.42640	-.45030	-.02620	.00500	.01270	-1.22210	.00000	.63730	.00000	-1.22210
3.479	155.270	1.88130	-.35150	-.02680	.01540	.00380	-1.18810	.00000	.61490	.00000	-1.18810
3.479	151.160	2.36710	-.25050	-.02490	.02110	.01600	-1.14430	.00000	.60080	.00000	-1.14430
3.479	149.200	2.61660	-.22650	-.01920	.03820	.02480	-1.12290	.00000	.59750	.00000	-1.12290
3.479	139.400	1.43940	-.45240	-.02130	.01290	.00440	-1.22550	.00000	.63700	.00000	-1.22550
GRADIENT		-.09809	-.01244	.00017	-.00225	-.00067	-.00781	.00000	.00548	.00000	-.00781

RUN NO. 40/ 0 RML = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYN	CYM	CBL	CA	CAB	XCP/L	CPBL	CPC
4.960	169.640	.53000	-.40970	-.00860	.01460	.00450	-1.25270	.00000	.71180	.00000	-1.25270
4.960	167.790	.63280	-.47300	-.00890	.00260	.00560	-1.24890	.00000	.71230	.00000	-1.24890
4.960	163.700	.90540	-.52230	-.01680	.03390	-.00210	-1.22710	.00000	.68260	.00000	-1.22710
4.960	159.660	1.21800	-.47320	-.02480	.03820	.00280	-1.19340	.00000	.64990	.00000	-1.19340
4.960	155.590	1.65180	-.32770	-.03300	.01970	.03820	-1.17140	.00000	.61690	.00000	-1.17140
4.960	151.560	2.10040	-.24690	-.03070	.04250	.04180	-1.14100	.00000	.60290	.00000	-1.14100
4.960	149.630	2.35880	-.20420	-.02150	.07010	.03350	-1.11580	.00000	.59750	.00000	-1.11580
4.960	139.660	1.19100	-.48410	-.01300	.02600	-.01420	-1.19890	.00000	.65310	.00000	-1.19890
GRADIENT		-.09565	-.01285	.00101	-.00237	-.00205	-.00678	.00000	.00630	.00000	-.00678

NSFC 583 (TAIF) 324 IN. CIA, ET (418 MOD) W/GRIT (R99040) (20 MAR 74)

REFERENCE DATA

REF = .7420 IN. WARP = 3.2590 IN.
 LREF = .9720 IN. YWARP = .0000 IN.
 DREF = .9720 IN. ZWARP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 180.000

RUN NO. 126/ 0 RN/L = 6.99 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYVM	CBL	CA	CAB	KCP/L	CPB1	CPC
1.958	195.020	-.96480	.49010	.00800	-.01500	.00430	-1.25980	.00000	.75320	.00000	-1.25980
1.958	188.040	-.39910	.42080	.01540	-.00380	.00170	-1.24680	.00000	.76980	.00000	-1.24680
1.958	183.910	-.13380	.19740	.01460	-.02260	-.00490	-1.25590	.00000	.83860	.00000	-1.25590
1.958	179.780	.07280	-.08600	.00730	-.03490	.00160	-1.26460	.00000	.78750	.00000	-1.26460
1.958	175.650	.27550	-.35380	-.00220	-.02840	-.00210	-1.26210	.00000	.79290	.00000	-1.26210
1.958	171.540	.51340	-.56310	-.00850	-.02670	.00140	-1.28800	.00000	.77300	.00000	-1.28800
1.958	169.570	.66780	-.61910	-.00930	-.02630	-.00260	-1.28890	.00000	.74350	.00000	-1.28890
1.958	179.780	.08150	-.09790	.00880	-.02260	-.00310	-1.23650	.00000	.79110	.00000	-1.23650
GRADIENT		-.05733	.05708	.00117	.00087	.00001	.00175	.00000	.00015	.00000	.00175

RUN NO. 38/ 0 RN/L = 6.26 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYVM	CBL	CA	CAB	KCP/L	CPB1	CPC
3.479	189.870	-.43380	.28400	.01190	.01910	.00330	-1.21450	.00000	.68420	.00000	-1.21450
3.479	187.950	-.31720	.21390	.00900	.00620	.01480	-1.22360	.00000	.69960	.00000	-1.22360
3.479	183.860	-.09630	.08960	.00660	-.01270	.00620	-1.23880	.00000	.74400	.00000	-1.23880
3.479	179.790	.08910	-.09800	-.00010	-.01370	.01700	-1.25090	.00000	.77350	.00000	-1.25090
3.479	175.700	.27430	-.28600	-.00330	-.02250	.00500	-1.26400	.00000	.76360	.00000	-1.26400
3.479	171.630	.49360	-.41580	-.00450	-.02130	.00050	-1.28200	.00000	.72820	.00000	-1.28200
3.479	169.710	.62430	-.45680	.00720	-.00310	.00390	-1.28350	.00000	.70950	.00000	-1.28350
3.479	179.790	.08940	-.11570	.00750	-.01320	.00660	-1.25210	.00000	.80710	.00000	-1.25210
GRADIENT		-.05091	.03744	.00047	.00136	.00032	.00345	.00000	-.00154	.00000	.00345

RUN NO. 37/ 0 RN/L = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYVM	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	189.800	-.33200	.23110	.00120	.01230	.02100	-1.16760	.00000	.70340	.00000	-1.16760
4.960	187.890	-.27670	.17090	.00130	.00020	.00470	-1.17980	.00000	.68980	.00000	-1.17980
4.960	183.840	-.08380	.04070	-.00360	.00970	-.00160	-1.19840	.00000	.65680	.00000	-1.19840
4.960	179.810	.06890	-.12320	-.00050	.00970	.00450	-1.22580	.00000	.89300	.00000	-1.22580
4.960	175.770	.22090	-.26220	-.00030	-.02670	.00790	-1.24680	.00000	.78860	.00000	-1.24680
4.960	171.760	.42770	-.41850	-.00820	.02090	-.00170	-1.25390	.00000	.75240	.00000	-1.25390
4.960	169.840	.52420	-.46990	-.00350	.02620	.03270	-1.25330	.00000	.73820	.00000	-1.25330
4.960	179.810	.06910	-.13600	-.00030	.00360	.02250	-1.22530	.00000	.92410	.00000	-1.22530
GRADIENT		-.04271	.03585	.00027	-.00044	-.00029	.00460	.00000	-.00372	.00000	.00460

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TABULATED SOURCE DATA, MSFC TWT 583

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MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99041) (20 MAR 74)

REFERENCE DATA

BREF = .7420 94. IN XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 225.000

RUN NO. 17/ 0 RNVL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	-9.810	-6.1100	-6.2350	.04790	-.00520	-.02690	.46000	.02270	.34840	.00000	.43750
4.960	-7.690	-4.6020	-6.7860	.04280	-.01550	-.02760	.45430	.02310	.32640	.00000	.43110
4.960	-5.630	-1.19910	-.57790	.02670	-.03480	.00010	.45310	.02150	.29270	.00000	.43150
4.960	.200	.04990	.01590	.02870	.00060	.00270	.45660	.02100	.25030	.00000	.43550
4.960	4.280	.29750	.30630	.01780	-.03270	.00010	.46190	.02190	.40360	.00000	.43990
4.960	6.280	.55920	.63180	.03120	-.00060	.01360	.48050	.02310	.38620	.00000	.45730
4.960	10.200	.70970	.75240	.03110	-.03810	.01610	.49320	.02430	.39830	.00000	.46880
4.960	.200	.07670	.00820	.02870	-.00580	.00220	.49200	.02240	.56380	.00000	.42960
GRADIENT		.06138	.08456	-.00110	.00025	-.00000	.00109	.00005	.01859	.00000	.00104

REFERENCE DATA

BREF = .7420 94. IN XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 225.000

RUN NO. 18/ 0 RNVL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	10.310	.85910	.78150	.04290	-.05990	.00210	.50860	.02430	.42440	.00000	.48430
4.960	12.410	.95810	.92690	.04400	-.03310	.02160	.52370	.02420	.41400	.00000	.49950
4.960	16.470	1.53820	1.14740	.05060	-.09030	.01630	.55260	.02430	.43350	.00000	.52820
4.960	20.530	1.61320	1.33130	.05340	-.10230	.03840	.59380	.02460	.45510	.00000	.56910
4.960	24.610	2.59970	1.48890	.06780	-.13660	.06980	.63510	.02510	.47470	.00000	.60990
4.960	28.660	2.99800	1.66850	.08770	-.17030	.07130	.67350	.02520	.48580	.00000	.64820
4.960	30.590	3.26270	1.74270	.11100	-.22840	.08940	.68920	.02550	.49020	.00000	.66360
4.960	20.530	1.62860	1.35370	.06480	-.10490	.03510	.59110	.02550	.43590	.00000	.56550
GRADIENT		.12337	.04653	.00302	-.00834	.00408	.00918	.00006	.00385	.00000	.00911

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99042) (20 MAR 74)

MSFC 583 (TA1F) 324 IN. DIA. ET (41B MOD) W/GRIT

(R99043) (20 MAR 74)

REFERENCE DATA

REF = .7420 94. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 225.000

PARAMETRIC DATA

RUN NO. 79/ 0 RML/L = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYN	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	50.400	6.14860	2.61040	.29920	-.23420	.22730	.74510	.00000	.50850	.00000	.74510
4.960	52.290	6.40310	2.68260	.30140	-.20850	.25300	.73660	.00000	.50970	.00000	.73660
4.960	56.330	7.00420	2.81770	.31780	-.15980	.25700	.70660	.00000	.51260	.00000	.70660
4.960	60.360	7.54450	2.96390	.35040	-.12150	.28260	.66040	.00000	.51420	.00000	.66040
4.960	64.400	8.06110	3.20320	.37830	-.02960	.30140	.58690	.00000	.51340	.00000	.58690
4.960	68.400	8.43040	3.27960	.34250	.03090	.30860	.52070	.00000	.51490	.00000	.52070
4.960	70.310	8.63040	3.34130	.38920	.03960	.31930	.47370	.00000	.51520	.00000	.47370
4.960	60.360	7.50620	2.97480	.35030	-.11490	.28320	.66300	.00000	.51360	.00000	.66300
GRADIENT		.12561	.03764	.00408	.01437	.00427	-.01560	.00000	.00031	.00000	-.01560

MSFC 583 (TA1F) 324 IN. DIA. ET (41B MOD) W/GRIT

(R99044) (20 MAR 74)

REFERENCE DATA

REF = .7420 94. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 225.000

PARAMETRIC DATA

RUN NO. 80/ 0 RML/L = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMH	CYN	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	60.560	9.12640	3.16670	.41530	.03180	.33080	.25270	.00000	.52220	.00000	.25270
4.960	62.440	9.15360	3.10300	.42190	.06190	.34510	.17330	.00000	.52360	.00000	.17330
4.960	66.460	9.25450	2.94850	.43880	.02450	.33640	-.02350	.00000	.52710	.00000	-.02350
4.960	90.430	9.30580	2.74270	.44510	.02120	.35450	-.23880	.00000	.53130	.00000	-.23880
4.960	94.460	9.39270	2.38260	.46260	.00760	.35970	-.42070	.00000	.53820	.00000	-.42070
4.960	98.430	9.27670	2.01600	.45140	.01980	.33830	-.54710	.00000	.54470	.00000	-.54710
4.960	100.320	9.26950	1.84170	.45130	-.00710	.36030	-.61700	.00000	.54800	.00000	-.61700
4.960	90.430	9.26950	2.73180	.44920	.03400	.35550	-.24290	.00000	.53140	.00000	-.24290
GRADIENT		.00837	-.06771	.00194	-.00236	.00093	-.04490	.00000	.00132	.00000	-.04490



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TABULATED SOURCE DATA, MSFC TWT 563

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MSFC 563 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99045) (20 MAR 74)

REFERENCE DATA

SREF = .7420 SQ. IN. YMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 225.000

RUN NO. 89/ 0 RNL = 4.89 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMA	CLMA	CYM	CYMH	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	129.600	5.65860	.05810	.10730	.06020	.28360	-.81720	.00000	.58070	.00000	-.31720
4.960	127.600	5.95920	.10890	.11130	.05160	.29570	-.76620	.00000	.57930	.00000	-.76620
4.960	123.600	6.62170	.27940	.14080	.07090	.33410	-.63580	.00000	.57510	.00000	-.63580
4.960	119.600	7.19190	.38610	.14300	.06170	.35790	-.53910	.00000	.57310	.00000	-.53910
4.960	115.580	7.74770	.57300	.15020	.08160	.37250	-.41540	.00000	.56960	.00000	-.41540
4.960	111.590	8.20750	.78020	.15860	.07800	.37210	-.27330	.00000	.56640	.00000	-.27330
4.960	109.670	8.42370	.86140	.16910	.05240	.37960	-.20410	.00000	.56470	.00000	-.20410
4.960	119.620	7.20660	.31940	.13700	.07030	.35680	-.55530	.00000	.57470	.00000	-.55530
GRADIENT		-.13914	-.04000	-.00287	-.00045	-.00479	-.03062	.00000	.00079	.00000	-.03062

REFERENCE DATA

SREF = .7420 SQ. IN. YMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 225.000

RUN NO. 34/ 0 RNL = 5.03 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CMA	CLMA	CYM	CYMH	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	149.240	2.75120	.00740	.01080	.03820	.12900	-1.11630	.00000	.57890	.00000	-1.11630
4.960	147.330	3.05150	.11150	.00870	.05080	.15100	-1.09880	.00000	.57610	.00000	-1.09880
4.960	143.240	3.67770	.16870	.02180	.03770	.18500	-1.04160	.00000	.57450	.00000	-1.04160
4.960	139.160	4.34390	.25980	.02880	.06610	.21290	-.96640	.00000	.57210	.00000	-.96640
4.960	135.060	5.02450	.33760	.00700	.07710	.22300	-.87950	.00000	.57080	.00000	-.87950
4.960	131.000	5.86500	.42160	.03300	.14250	.26370	-.78850	.00000	.56950	.00000	-.78850
4.960	129.070	5.97790	.44400	.06300	.11970	.27710	-.74080	.00000	.56950	.00000	-.74080
4.960	139.150	4.34680	.13160	.02870	.08000	.21200	-.96580	.00000	.57720	.00000	-.96580
GRADIENT		-.18042	-.01842	-.00224	-.00446	-.00694	-.01892	.00000	.00039	.00000	-.01892

MSFC 563 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99046) (20 MAR 74)

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99047) (20 MAR 74)

REFERENCE DATA

REF = .7420 IN. YMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 REF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 225.000

RUN NO. 35/ 0 RN/L = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMH	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	169.640	.56470	-.42660	.02670	-.03380	.03220	-1.24780	.00000	.71370	.00000	-1.24780
4.960	167.750	.66100	-.49050	.02590	-.02030	.04850	-1.24080	.00000	.71130	.00000	-1.24080
4.960	163.690	1.00140	-.48590	.01820	-.02480	.04870	-1.22380	.00000	.66670	.00000	-1.22380
4.960	159.640	1.38140	-.42010	-.00800	.01350	.03660	-1.19850	.00000	.63530	.00000	-1.19850
4.960	155.570	1.66480	-.24420	.01630	.05360	.08200	-1.17620	.00000	.60500	.00000	-1.17620
4.960	151.520	2.49570	-.06990	.01240	.05260	.16300	-1.14660	.00000	.58730	.00000	-1.14660
4.960	149.580	2.78310	-.13570	.01680	.03860	.13520	-1.12760	.00000	.59090	.00000	-1.12760
4.960	159.640	1.38210	-.44620	-.00800	.01370	.03660	-1.20270	.00000	.63890	.00000	-1.20270
GRADIENT		-.11133	-.02000	.00059	-.00447	-.00573	-.00591	.00000	.00680	.00000	-.00591

REFERENCE DATA

REF = .7420 IN. YMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 REF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 225.000

RUN NO. 36/ 0 RN/L = 5.01 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMH	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	169.600	-.39950	.24680	.07240	-.06660	-.00060	-1.17150	.00000	.69060	.00000	-1.17150
4.960	167.890	-.26970	.19510	.05990	-.04970	-.00780	-1.18270	.00000	.69940	.00000	-1.18270
4.960	163.840	-.11000	.06700	.06400	-.01850	-.01020	-1.20610	.00000	.68820	.00000	-1.20610
4.960	179.810	.04630	-.12390	.03730	-.00830	.00070	-1.22360	.00000	.96290	.00000	-1.22360
4.960	175.760	.26320	-.28180	.05660	-.01920	.00770	-1.23890	.00000	.76840	.00000	-1.23890
4.960	171.760	.41920	-.44470	.04500	-.03900	.03860	-1.24580	.00000	.76850	.00000	-1.24580
4.960	169.840	.35810	-.46130	.04400	-.02610	.03750	-1.24370	.00000	.73140	.00000	-1.24370
4.960	179.820	.04240	-.12230	.03220	-.03180	-.00300	-1.22610	.00000	1.08250	.00000	-1.22610
GRADIENT		-.04575	.03773	.00120	-.00135	-.00228	.00376	.00000	-.00356	.00000	.00376



DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 503

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MSFC 503 (TAIF) 324 IN. DIA. ET (AIR MOD) W/GRT

(R99049) (20 MAR 74)

REFERENCE DATA

REF = .7420 30. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0035

BETA = .000 PHI = 270.000

PARAMETRIC DATA

RUN NO. 140/ 0 RN/L = 6.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CYM	CYNN	CBL	CA	CAB	KCP/L	CPBI	CPC
1.955	-10.100	-.77890	-1.03500	-.14830	.11170	.02840	.74180	.09870	.35170	.00000	.64310
1.955	-8.100	-.56980	-.84740	-.11350	.10380	.02300	.72050	.09070	.32410	.00000	.62980
1.955	-3.930	-.23500	-.42560	-.08670	.11110	.00330	.69340	.08140	.26790	.00000	.61200
1.955	.230	.03060	.03540	-.08340	.12390	-.00470	.69580	.07490	.30180	.00000	.62080
1.955	4.390	.29900	.52080	-.08060	.11190	-.01900	.71530	.07930	.27990	.00000	.63590
1.955	6.940	.63630	.94720	-.08900	.11820	-.02650	.72620	.09580	.32590	.00000	.63030
1.955	10.340	.85250	1.12650	-.10140	.11210	-.03890	.72970	.10200	.35290	.00000	.62760
1.955	.220	.04280	.04330	-.08250	.12270	-.00670	.68210	.07530	.40670	.00000	.60670
GRADIENT		.06416	.11375	.00073	.00003	-.00220	.00263	-.00025	.00144	.00000	.00267

RUN NO. 21/ 0 RN/L = 6.34 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CYM	CYNN	CBL	CA	CAB	KCP/L	CPBI	CPC
3.479	-9.940	-.75770	-.85540	.03260	-.07410	-.03100	.55720	.04940	.38640	.00000	.50770
3.479	-6.010	-.56800	-.70970	.03860	-.07990	-.02660	.55830	.04840	.36540	.00000	.51010
3.479	-3.880	-.24950	-.37000	.03290	-.07340	-.01060	.55210	.04380	.32440	.00000	.50820
3.479	.200	.02860	.02720	.04910	-.07380	-.00280	.55410	.04220	.41700	.00000	.51190
3.479	4.320	.29960	.41350	.05550	-.06900	.00210	.55100	.04350	.34280	.00000	.50740
3.479	6.400	.61850	.75950	.08240	-.07530	.01070	.55920	.04750	.36920	.00000	.51180
3.479	10.360	.82010	.91860	.09900	-.06630	.02110	.56310	.04860	.38790	.00000	.51440
3.479	.200	.02850	.02730	.03150	-.08020	-.00350	.55410	.04240	.41580	.00000	.51170
GRADIENT		.06690	.09555	.00032	.00078	.00155	-.00014	-.00004	.00221	.00000	-.00010

RUN NO. 22/ 0 RN/L = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CYM	CYNN	CBL	CA	CAB	KCP/L	CPBI	CPC
4.980	-9.610	-.62260	-.79290	.00280	.01220	-.03530	.47510	.02370	.36120	.00000	.45130
4.980	-7.890	-.40640	-.63500	.05450	.01430	-.03190	.47370	.02370	.33640	.00000	.44990
4.980	-3.630	-.18520	-.34320	.05600	.00370	-.00360	.47040	.02250	.26060	.00000	.44780
4.980	.200	.04960	.01550	.05100	-.01100	-.00490	.47000	.02130	.52820	.00000	.44860
4.980	4.260	.29780	.37120	.05150	-.04010	-.00190	.47170	.02150	.38590	.00000	.45030
4.980	6.280	.56650	.70320	.06510	-.03810	.03470	.46790	.02280	.37420	.00000	.46300
4.980	10.200	.71000	.84190	.07070	-.03380	.00320	.46660	.02430	.37650	.00000	.46220
4.980	.200	.04310	.01250	.05110	-.01110	.00650	.47460	.02220	.54800	.00000	.45230
GRADIENT		.05971	.06831	-.00086	-.00542	.00021	.00016	-.00015	.01295	.00000	.00031

MSFC 963 (TAIF) 324 IN. DIA. ET (418 MOD) W/CRT

(R98050) (20 MAR 74)

REFERENCE DATA

BREF = .7420 IN. YMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 270.000

RUN NO. 139/ 0 RN/L = 6.96 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
1.933	10.810	.64320	1.11290	-.07060	.14550	-.04080	.72650	.10370	.35320	.00000	.82280
1.933	12.820	1.09840	1.25950	-.07980	.12980	-.04890	.75040	.11020	.38330	.00000	.82010
1.933	17.060	1.72900	1.57790	-.05630	.09770	-.06300	.72560	.12240	.42590	.00000	.80320
1.933	21.360	2.41460	1.89690	-.01480	.07850	-.08860	.72840	.12770	.44680	.00000	.80060
1.933	25.700	3.21800	2.32040	.02520	.05210	-.11880	.75240	.13410	.45720	.00000	.81830
1.933	29.950	3.93210	2.82190	.05690	.03620	-.14040	.71960	.13320	.46660	.00000	.86630
1.933	31.990	4.29450	2.76920	.07930	.04800	-.15570	.71260	.13540	.47040	.00000	.87710
1.933	21.320	2.41490	1.87530	-.01180	.07240	-.08310	.71810	.12740	.44760	.00000	.89060
GRADIENT		.16472	.07961	.00762	-.00455	-.00549	-.00030	.00143	.00511	.00000	-.00173

RUN NO. 20/ 0 RN/L = 6.31 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
3.479	10.650	.80820	.93860	.11700	-.03310	.01630	.56440	.04880	.38070	.00000	.51560
3.479	12.590	.99710	1.08290	.13330	-.05000	.02630	.56650	.04830	.39380	.00000	.51810
3.479	16.730	1.43710	1.59200	.14940	-.01370	.03640	.57470	.04710	.41420	.00000	.52750
3.479	20.860	1.89310	1.67980	.16520	.00500	.04770	.58940	.04800	.42850	.00000	.54140
3.479	25.020	2.43130	1.89620	.16920	.03160	.06030	.60870	.04980	.44700	.00000	.55890
3.479	29.140	3.00890	2.11890	.16060	.03250	.07040	.62540	.04980	.46010	.00000	.57550
3.479	31.120	3.30270	2.23380	.15510	.06320	.08460	.63530	.05080	.46500	.00000	.58450
3.479	20.860	1.90040	1.67770	.16280	.00840	.05070	.59030	.04830	.42910	.00000	.54180
GRADIENT		.12159	.06280	.00183	.00585	.00305	.00356	.00012	.00406	.00000	.00344

RUN NO. 19/ 0 RN/L = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	10.500	.72340	.83760	.07700	-.00950	.00500	.48770	.02330	.38130	.00000	.46440
4.960	12.400	.86050	.98360	.08920	-.00450	.00480	.49330	.02370	.38350	.00000	.46950
4.960	16.470	1.25800	1.25300	.10920	.01890	.02340	.50850	.02390	.40940	.00000	.48460
4.960	20.520	1.68020	1.48540	.11610	.03110	.04310	.52360	.02360	.42890	.00000	.49990
4.960	24.600	2.19670	1.64430	.13290	.03560	.05460	.55130	.02450	.43240	.00000	.52680
4.960	28.640	2.75460	1.83280	.13590	.03090	.05940	.56940	.02420	.46690	.00000	.54510
4.960	30.570	3.05400	1.92850	.13810	.04410	.07100	.58460	.02370	.47260	.00000	.56080
4.960	20.510	1.63240	1.46560	.11170	.02670	.04130	.52390	.02420	.42830	.00000	.49970
GRADIENT		.11626	.05300	.00297	.00266	.00334	.00482	.00003	.00463	.00000	.00479



DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 503

PAGE 39

MSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(899031) (20 MAR 74)

REFERENCE DATA

SREF = .7420 SQ. IN. XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 GREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 270.000

RUN NO. 104/ 0 RN/L = 7.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
1.948	51.230	6.26040	3.04690	.12430	.27160	.17170	.59330	.00000	.47570	.00000	.59330
1.948	53.140	6.50530	3.91010	.12600	.28070	.18310	.54800	.00000	.47660	.00000	.54800
1.948	57.230	7.02530	4.05550	.12740	.28710	.19220	.52940	.00000	.48220	.00000	.52940
1.948	61.290	7.40370	3.66250	.12750	.28780	.20560	.50300	.00000	.49180	.00000	.50300
1.948	65.360	7.79670	3.02540	.10950	.27750	.21280	.52440	.00000	.49720	.00000	.52440
1.948	69.360	8.11310	3.72780	.13190	.28050	.22050	.43630	.00000	.50260	.00000	.43630
1.948	71.270	8.22710	3.65010	.13510	.28790	.22790	.36530	.00000	.50540	.00000	.36530
1.948	61.240	7.23770	3.73970	.12570	.28050	.19890	.57860	.00000	.49270	.00000	.57860
GRADIENT		.09826	-.01196	.00023	-.00476	.00260	-.00766	.00000	.00153	.00000	-.00766

RUN NO. 77/ 0 RN/L = 6.27 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
3.479	50.770	5.01220	3.07090	.16170	.11190	.16750	.61450	.00000	.49070	.00000	.61450
3.479	52.690	6.06700	3.10530	.16880	.12480	.15900	.61000	.00000	.49350	.00000	.61000
3.479	56.740	6.59400	3.14130	.17500	.13170	.16680	.59250	.00000	.49970	.00000	.59250
3.479	60.790	7.12290	3.31430	.16880	.16350	.18590	.54960	.00000	.50160	.00000	.54960
3.479	64.030	7.55620	3.36300	.17560	.15780	.19330	.51050	.00000	.50310	.00000	.51050
3.479	66.860	7.92200	3.41150	.18400	.16160	.20670	.46070	.00000	.50770	.00000	.46070
3.479	70.770	8.06690	3.36810	.19220	.14200	.21020	.42790	.00000	.50990	.00000	.42790
3.479	60.790	7.09610	3.34050	.16380	.17280	.18160	.55030	.00000	.50070	.00000	.55030
GRADIENT		.11403	.01746	.00119	.00194	.00266	-.00937	.00000	.00090	.00000	-.00937

RUN NO. 78/ 0 RN/L = 4.98 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
4.980	50.380	5.06500	2.78250	.19050	.11600	.13410	.62110	.00000	.49770	.00000	.62110
4.980	52.270	5.92290	2.81580	.18050	.09940	.14460	.61050	.00000	.49990	.00000	.61050
4.980	56.320	6.45200	2.91600	.19610	.13510	.15930	.59260	.00000	.50390	.00000	.59260
4.980	60.340	6.98140	3.01710	.17680	.12760	.16570	.55430	.00000	.50740	.00000	.55430
4.980	64.380	7.41350	3.16470	.20250	.14190	.17790	.49450	.00000	.50830	.00000	.49450
4.980	68.370	7.79370	3.17160	.20460	.12000	.18250	.43400	.00000	.51180	.00000	.43400
4.980	70.260	7.95620	3.20670	.20580	.12840	.18320	.39450	.00000	.51240	.00000	.39450
4.980	60.340	6.96030	3.04570	.18290	.13210	.16750	.55590	.00000	.50650	.00000	.55590
GRADIENT		.11592	.02302	.00103	.00093	.00241	-.01130	.00000	.00072	.00000	-.01130

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99052) (20 MAR 74)

REFERENCE DATA

REF = .7420 IN. TMRP = 3.2590 IN.
 LREF = .9720 IN. TMRP = .0000 IN.
 BREF = .9720 IN. TMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 270.000

RUN NO. 103/ 0 RN/L = 6.98 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CFB1	CPC
1.955	81.400	8.79550	2.96540	.06940	.16630	.23030	-.09280	.00000	.52390	.00000	-.09280
1.955	83.290	8.92650	2.82900	.07370	.16370	.24970	-.16360	.00000	.52740	.00000	-.16360
1.955	87.290	9.06680	2.51430	.07950	.13370	.26070	-.30900	.00000	.53430	.00000	-.30900
1.955	91.250	9.11490	2.11920	.08150	.11350	.26890	-.43400	.00000	.54210	.00000	-.43400
1.955	95.230	9.08100	1.71590	.07870	.04780	.27450	-.54280	.00000	.54960	.00000	-.54280
1.955	99.160	8.94470	1.37910	.07600	.01760	.27100	-.65140	.00000	.55370	.00000	-.65140
1.955	101.040	8.87310	1.24730	.07400	.01730	.27860	-.70230	.00000	.55800	.00000	-.70230
1.955	91.240	9.07370	2.11990	.07790	.11100	.26600	-.43220	.00000	.54190	.00000	-.43220
GRADIENT		.00276	-.09003	.00017	-.00846	.00143	-.03076	.00000	.00177	.00000	-.03076

RUN NO. 76/ 0 RN/L = 6.28 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CFB1	CPC
3.479	80.990	8.60240	3.13450	.16500	.12050	.23460	.17900	.00000	.51920	.00000	.17900
3.479	82.870	8.67090	3.03350	.17050	.11280	.23700	.09160	.00000	.52170	.00000	.09160
3.479	86.890	8.72900	2.89010	.16870	.12130	.23880	-.11960	.00000	.52490	.00000	-.11960
3.479	90.660	8.84420	2.42030	.21080	.05420	.24440	-.38150	.00000	.53510	.00000	-.38150
3.479	94.830	8.85410	1.96590	.23180	.03490	.24600	-.52720	.00000	.54390	.00000	-.52720
3.479	98.600	8.72770	1.59840	.20120	.02960	.24080	-.66280	.00000	.55060	.00000	-.66280
3.479	100.680	8.58650	1.43910	.17410	.08130	.23940	-.73140	.00000	.55330	.00000	-.73140
3.479	90.660	8.81960	2.42030	.22790	.05030	.24060	-.38350	.00000	.53460	.00000	-.38350
GRADIENT		.00228	-.09023	.00133	-.00396	.00030	-.04711	.00000	.00182	.00000	-.04711

RUN NO. 75/ 0 RN/L = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CFB1	CPC
4.960	80.540	8.56080	2.99820	.20440	.17030	.20730	.22900	.00000	.52170	.00000	.22900
4.960	82.420	8.63940	2.90630	.21550	.08470	.20430	.14520	.00000	.52400	.00000	.14520
4.960	86.430	8.70430	2.76150	.17850	.15690	.20140	-.03320	.00000	.52730	.00000	-.03320
4.960	90.430	8.84390	2.42700	.22240	.04670	.20920	-.29780	.00000	.53480	.00000	-.29780
4.960	94.440	8.87720	2.07060	.23300	.01520	.21310	-.47970	.00000	.54190	.00000	-.47970
4.960	98.400	8.81690	1.68730	.21680	.00940	.21440	-.63290	.00000	.54920	.00000	-.63290
4.960	100.300	8.73230	1.52070	.21170	.04780	.22420	-.71150	.00000	.55220	.00000	-.71150
4.960	90.430	8.81970	2.44750	.22790	.04590	.21980	-.28940	.00000	.53420	.00000	-.28940
GRADIENT		.01072	-.07626	.00086	-.00531	.00083	-.04871	.00000	.00156	.00000	-.04871

DATE 03 AUG 74

TABULATED SOURCE DATA, NSFC TWT 583

PAGE 41

NSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/CRT1

(R99053) (20 MAR 74)

REFERENCE DATA

BREF = .7420 IN. XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 270.000

RUN NO. 105/ 0 RN/L = 6.99 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNH	CLMH	CYM	CYMH	CBL	CA	CAB	KCP/L	CPB1	CPC
1.946	128.820	5.72910	-.82040	-.13000	-.05580	.18430	-.68420	.00000	.60130	.00000	-.68420
1.946	126.920	5.90810	-.51460	-.14390	-.05130	.19110	-.64910	.00000	.59760	.00000	-.64910
1.946	122.850	6.50430	-.37710	-.18470	-.07730	.21240	-.56110	.00000	.59250	.00000	-.56110
1.946	116.720	7.02700	-.11960	-.21360	-.07840	.22110	-.47330	.00000	.58540	.00000	-.47330
1.946	114.640	7.43880	.19880	-.22740	-.06320	.22730	-.35300	.00000	.57780	.00000	-.35300
1.946	110.640	7.85360	.53680	-.22420	-.02900	.23760	-.19280	.00000	.57060	.00000	-.19280
1.946	106.750	7.93770	.73400	-.21710	.00410	.23340	-.10610	.00000	.56640	.00000	-.10610
1.946	118.790	6.60410	-.05490	-.20630	-.05630	.21160	-.47280	.00000	.58390	.00000	-.47280
	GRADIENT	-.11391	-.06658	.00464	-.00248	-.00254	-.02837	.00000	.00172	.00000	-.02837

RUN NO. 71/ 0 RN/L = 6.22 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNH	CLMH	CYM	CYMH	CBL	CA	CAB	KCP/L	CPB1	CPC
3.479	129.240	5.34880	-.25110	-.03490	-.02200	.19180	-.70720	.00000	.59060	.00000	-.70720
3.479	127.320	5.60970	-.17590	-.03640	-.03410	.20300	-.66680	.00000	.58790	.00000	-.66680
3.479	123.260	6.15000	-.04870	-.04300	-.02070	.21940	-.56200	.00000	.58380	.00000	-.56200
3.479	119.210	6.65020	.10190	-.03460	-.03300	.23280	-.46170	.00000	.57980	.00000	-.46170
3.479	115.160	7.11620	.38250	-.05320	-.00930	.24400	-.37030	.00000	.57310	.00000	-.37030
3.479	111.140	7.54840	.64430	-.06370	-.01040	.25250	-.26030	.00000	.56760	.00000	-.26030
3.479	109.230	7.71680	.80810	-.06730	-.01110	.25470	-.20550	.00000	.56430	.00000	-.20550
3.479	119.210	6.64410	.10230	-.05200	-.03380	.22770	-.46590	.00000	.57980	.00000	-.46590
	GRADIENT	-.11897	-.05214	.00162	-.00116	-.00310	-.02496	.00000	.00129	.00000	-.02496

RUN NO. 70/ 0 RN/L = 4.89 GRADIENT INTERVAL = -5.00/ 5.00

WACH	ALPHA	CNH	CLMH	CYM	CYMH	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	129.610	5.43420	.02980	-.00540	.03270	.19740	-.71880	.00000	.58150	.00000	-.71880
4.960	127.890	5.67930	.01150	-.00760	.07090	.19970	-.67160	.00000	.58210	.00000	-.67160
4.960	123.670	6.26190	.23160	-.01720	.05800	.22320	-.57350	.00000	.57600	.00000	-.57350
4.960	119.650	6.76360	.33450	-.02620	.05880	.22830	-.46720	.00000	.57390	.00000	-.46720
4.960	115.610	7.12640	.32080	-.02920	.07590	.22600	-.36070	.00000	.56980	.00000	-.36070
4.960	111.610	7.70780	.96030	-.05020	.05190	.24430	-.24790	.00000	.56060	.00000	-.24790
4.960	109.710	7.88330	1.02920	-.05700	.04670	.25010	-.18110	.00000	.55980	.00000	-.18110
4.960	119.650	6.69480	.35620	-.04230	.02610	.23680	-.46880	.00000	.57320	.00000	-.46880
	GRADIENT	-.12275	-.05207	.00251	-.00016	-.00249	-.02672	.00000	.00115	.00000	-.02672

MSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(899054) (20 MAR 74)

REFERENCE DATA

REF = .7420 IN. XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 270.000

RUN NO. 123/ 0 RNL = 6.69 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYN	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
1.965	148.020	3.69050	-.58380	.19850	.02680	.12060	-1.12200	.00000	.60950	.00000	-1.12200
1.965	145.990	3.99420	-.53600	.16590	-.01190	.13010	-1.09690	.00000	.60580	.00000	-1.09690
1.965	141.750	4.67430	-.44160	.06610	-.13540	.14990	-1.03630	.00000	.59890	.00000	-1.03630
1.965	137.450	5.36370	-.34630	-.01840	-.16840	.16700	-.96630	.00000	.59370	.00000	-.96630
1.965	133.160	6.03650	-.26720	-.06660	-.17340	.19290	-.87410	.00000	.59010	.00000	-.87410
1.965	128.990	6.57660	-.21530	-.07170	-.11160	.21970	-.75940	.00000	.58810	.00000	-.75940
1.965	127.000	6.78450	-.24880	-.06960	-.10510	.22050	-.70460	.00000	.58880	.00000	-.70460
1.965	137.920	5.28670	-.38750	-.03360	-.18150	.16650	-.96060	.00000	.59250	.00000	-.96060
GRADIENT		-.15020	-.01740	.01345	.00596	-.00495	-.01976	.00000	.00102	.00000	-.01976

RUN NO. 33/ 0 RNL = 6.36 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYN	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
3.479	148.740	2.95200	-.38480	.04340	-.08080	.11360	-1.07820	.00000	.60510	.00000	-1.07820
3.479	146.790	3.24550	-.35480	.01360	-.09510	.12740	-1.05290	.00000	.60140	.00000	-1.05290
3.479	142.690	3.85970	-.30420	.01180	-.07700	.14370	-.99080	.00000	.59610	.00000	-.99080
3.479	138.430	4.50420	-.25130	.00490	-.06870	.16330	-.91670	.00000	.59210	.00000	-.91670
3.479	134.290	5.12410	-.17720	.00080	-.06980	.18110	-.83090	.00000	.58850	.00000	-.83090
3.479	130.120	5.71970	-.08760	-.00310	-.06830	.20380	-.73960	.00000	.58510	.00000	-.73960
3.479	126.150	5.98710	-.04130	-.00250	-.06120	.21070	-.69410	.00000	.58360	.00000	-.69410
3.479	136.440	4.49220	-.26100	.00760	-.07210	.16880	-.91250	.00000	.59250	.00000	-.91250
GRADIENT		-.14815	-.01631	.00171	-.00118	-.00465	-.01875	.00000	.00101	.00000	-.01875

RUN NO. 32/ 0 RNL = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYN	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	149.850	2.59080	-.21240	.04870	-.04590	.10190	-1.05070	.00000	.59670	.00000	-1.05070
4.960	147.340	2.87600	-.16100	.04150	-.05710	.12000	-1.02720	.00000	.59320	.00000	-1.02720
4.960	143.250	3.47430	-.09960	.03740	-.04480	.14760	-.97060	.00000	.58740	.00000	-.97060
4.960	139.180	4.07260	-.06320	.02770	-.03690	.16390	-.89980	.00000	.58310	.00000	-.89980
4.960	135.080	4.72650	-.01750	.02310	-.01870	.16770	-.82030	.00000	.58180	.00000	-.82030
4.960	131.030	5.32280	.10590	.01960	-.03210	.19140	-.72760	.00000	.57900	.00000	-.72760
4.960	129.100	5.61010	.12020	.07350	-.03810	.19140	-.68950	.00000	.57870	.00000	-.68950
4.960	139.160	4.07350	-.10160	.03340	-.03200	.15930	-.89660	.00000	.58680	.00000	-.89660
GRADIENT		-.15021	-.01626	-.00003	-.00313	-.00424	-.01813	.00000	.00084	.00000	-.01813



DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 583

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MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(899055) (20 MAR 74)

REFERENCE DATA

DAEP = .7420 SQ. IN XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 DAEP = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 270.000

PARAMETRIC DATA

RUN NO. 122/ 0 RVL = 6.89 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
1.953	169.338	.76360	-.87440	.10750	.03220	.04300	-1.28930	.00000	.73590	.00000	-1.28530
1.953	167.340	.99020	-.68930	.15510	.07360	.05050	-1.28880	.00000	.70350	.00000	-1.28880
1.953	163.110	1.54760	-.67930	.25330	.14920	.06770	-1.27630	.00000	.65870	.00000	-1.27630
1.953	158.840	2.16660	-.68110	.29170	.15190	.08150	-1.25300	.00000	.63710	.00000	-1.25300
1.953	154.530	2.85450	-.70030	.32220	.12610	.10250	-1.23950	.00000	.62510	.00000	-1.23950
1.953	150.340	3.44840	-.64570	.28720	.08020	.11430	-1.16470	.00000	.61500	.00000	-1.16470
1.953	146.300	3.78890	-.61900	.26800	.05260	.12300	-1.13750	.00000	.61080	.00000	-1.13750
1.953	138.890	2.13590	-.64410	.27310	.13540	.08000	-1.23210	.00000	.63480	.00000	-1.23210
GRADIENT		-.11491	-.00212	-.00771	-.00042	-.00381	-.00688	.00000	.00549	.00000	-.00688

RUN NO. 30/ 0 RVL = 6.35 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
3.479	169.520	.62810	-.47540	.08740	-.02110	.03460	-1.24580	.00000	.71430	.00000	-1.24580
3.479	167.590	.78510	-.49210	.09940	-.02210	.04260	-1.24120	.00000	.69130	.00000	-1.24120
3.479	163.470	1.15170	-.54900	.12040	-.02310	.05840	-1.22190	.00000	.66530	.00000	-1.22190
3.479	159.350	1.57200	-.56640	.12040	-.02390	.06620	-1.19460	.00000	.64300	.00000	-1.19460
3.479	155.200	2.07010	-.51940	.10500	-.04880	.08610	-1.15510	.00000	.62600	.00000	-1.15510
3.479	151.080	2.61030	-.45430	.07630	-.06990	.10550	-1.10930	.00000	.61270	.00000	-1.10930
3.479	149.100	2.90790	-.41380	.06410	-.07010	.11050	-1.08730	.00000	.60720	.00000	-1.08730
3.479	159.350	1.56610	-.57150	.12570	-.02540	.06900	-1.19450	.00000	.64580	.00000	-1.19450
GRADIENT		-.11127	-.00282	.00130	.00264	-.00372	-.00788	.00000	.00502	.00000	-.00788

RUN NO. 31/ 0 RVL = 5.03 GRADIENT INTERVAL = -3.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	169.650	.49750	-.47000	.06850	-.07750	.04790	-1.23150	.00000	.74660	.00000	-1.23150
4.960	167.750	.63500	-.52690	.08380	-.03170	.04420	-1.23320	.00000	.72680	.00000	-1.23320
4.960	163.890	.96330	-.58510	.09950	-.04250	.05170	-1.21900	.00000	.68790	.00000	-1.21900
4.960	159.640	1.31710	-.60860	.09210	-.06590	.06450	-1.19240	.00000	.66270	.00000	-1.19240
4.960	155.570	1.81970	-.51000	.08340	-.07740	.08840	-1.15880	.00000	.63110	.00000	-1.15880
4.960	151.520	2.35040	-.46710	.07530	-.11390	.09700	-1.11260	.00000	.61700	.00000	-1.11260
4.960	149.590	2.64910	-.45560	.06700	-.08700	.08280	-1.09240	.00000	.61230	.00000	-1.09240
4.960	159.640	1.31730	-.63460	.10390	-.07550	.07710	-1.19130	.00000	.66610	.00000	-1.19130
GRADIENT		-.10655	-.00256	.00041	.00247	-.00209	-.00716	.00000	.00674	.00000	-.00716

NSFC 563 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99096) (20 MAR 74)

REFERENCE DATA

REF = .7420 IN XGRP = 3.2590 IN.
LREF = .9720 IN. YGRP = .0000 IN.
BREF = .9720 IN. ZGRP = .0000 IN.
SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 270.000

RUN NO. 121/ 0 RN/L = 6.85 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYN	CYH	CYH	CBL	CA	CAB	XCP/L	CFB1	CPC
1.956	190.080	-.67860	.35680	.07610	-.01180	-.02480	-1.27460	.00000	.00000	.72500	.00000	-1.27460
1.956	186.590	-.46640	.48050	.06140	-.01640	-.02110	-1.26370	.00000	.00000	.75410	.00000	-1.26370
1.956	183.950	-.21440	.24110	.03940	-.03220	-.00720	-1.27980	.00000	.00000	.77770	.00000	-1.27980
1.956	179.820	.00440	-.05520	.03370	-.05230	.00340	-1.27500	.00000	.00000	2.75050	.00000	-1.27500
1.956	175.640	.23180	-.35200	.04460	-.03650	.01990	-1.28030	.00000	.00000	.84620	.00000	-1.28030
1.956	171.520	.54740	-.61930	.08890	-.02370	.03370	-1.29610	.00000	.00000	.77900	.00000	-1.29610
1.956	169.520	.73860	-.70300	.13110	.01560	.03930	-1.29600	.00000	.00000	.74780	.00000	-1.29600
1.956	179.820	-.00030	-.05730	.04090	-.04380	.00260	-1.24800	.00000	.00000	.00000	.00000	-1.24800
GRADIENT		-.06521	.06401	-.00213	-.00049	-.00320	.00126	.00000	.00000	-.00185	.00000	.00126

RUN NO. 29/ 0 RN/L = 6.37 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYN	CYH	CYH	CBL	CA	CAB	XCP/L	CFB1	CPC
3.479	189.910	-.53670	.34920	.08330	-.04300	-.02440	-1.23750	.00000	.00000	.69550	.00000	-1.23750
3.479	187.980	-.40820	.29630	.07250	-.05340	-.01570	-1.24480	.00000	.00000	.70860	.00000	-1.24480
3.479	183.890	-.17480	.15990	.06620	-.05030	-.00280	-1.25340	.00000	.00000	.74140	.00000	-1.25340
3.479	179.820	.00420	-.05500	.05550	-.06490	.00630	-1.25090	.00000	.00000	2.84400	.00000	-1.25090
3.479	175.720	.21450	-.25730	.06690	-.04430	.01010	-1.25830	.00000	.00000	.79080	.00000	-1.25830
3.479	171.660	.46690	-.41390	.08870	-.03870	.02050	-1.25490	.00000	.00000	.73640	.00000	-1.25490
3.479	169.710	.61410	-.46330	.09820	-.03850	.03360	-1.25170	.00000	.00000	.71350	.00000	-1.25170
3.479	179.820	.00460	-.07820	.05810	-.06260	.00620	-1.25340	.00000	.00000	3.50510	.00000	-1.25340
GRADIENT		-.05493	.04238	-.00077	-.00051	-.00252	.00066	.00000	.00000	-.00157	.00000	.00066

RUN NO. 28/ 0 RN/L = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYN	CYH	CYH	CBL	CA	CAB	XCP/L	CFB1	CPC
4.960	189.800	-.35930	.35630	.07730	-.05040	-.00780	-1.19120	.00000	.00000	.75570	.00000	-1.19120
4.960	187.890	-.29000	.29740	.08190	-.02010	-.02760	-1.19850	.00000	.00000	.76060	.00000	-1.19850
4.960	183.840	-.07030	.18920	.07330	-.02960	-.00930	-1.21040	.00000	.00000	1.04960	.00000	-1.21040
4.960	179.810	.12270	.00800	.06970	-.03220	-.00310	-1.21170	.00000	.00000	.57110	.00000	-1.21170
4.960	175.780	.30250	-.17170	.07390	-.03840	.00930	-1.21600	.00000	.00000	.68100	.00000	-1.21600
4.960	171.750	.49540	-.31380	.08420	-.02770	.02600	-1.21130	.00000	.00000	.69230	.00000	-1.21130
4.960	169.830	.60530	-.38040	.09300	-.02430	.03170	-1.20390	.00000	.00000	.69160	.00000	-1.20390
4.960	179.810	.12280	.01980	.08080	-.05490	.00470	-1.21440	.00000	.00000	.35430	.00000	-1.21440
GRADIENT		-.04825	.03800	-.00052	-.00045	-.00249	.00070	.00000	.00000	.00739	.00000	.00070

DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 503

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MSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99057) (20 MAR 74)

REFERENCE DATA

REF = .7420 SQ. IN YARP = 3.2590 IN.
 LRF = .9720 IN. YARP = .0000 IN.
 BRP = .9720 IN. ZARP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 315.000

RUN NO. 23/0 RN/L = 4.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CIN	CLIN	CYN	CYIN	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	-9.810	-66310	-69110	.04160	-.00900	-.00410	.50030	.02400	.40140	.00000	.47630
4.960	-7.890	-32600	-134360	.05390	.00220	.00780	.49240	.02360	.40300	.00000	.46860
4.960	-3.630	-23120	-28570	.03240	-.00930	-.02140	.49170	.02280	.36490	.00000	.46880
4.960	.190	-03090	.07390	.03910	-.00770	-.00430	.45770	.02160	.99810	.00000	.43600
4.960	4.230	.21690	.38950	.04070	.00760	.00250	.45830	.02060	.27060	.00000	.43760
4.960	8.270	.47810	.68930	.04190	.00370	.00190	.45920	.02240	.33200	.00000	.43680
4.960	10.200	.65650	.85340	.04320	.01780	.00870	.46650	.02240	.35670	.00000	.44410
4.960	.200	.02300	.06310	.05120	.00860	-.00330	.46240	.02190	.12900	.00000	.44040
GRADIENT		.05794	.08355	.00103	.00209	.00296	-.00413	-.00027	-.01442	.00000	-.00385

REFERENCE DATA

REF = .7420 SQ. IN YARP = 3.2590 IN.
 LRF = .9720 IN. YARP = .0000 IN.
 BRP = .9720 IN. ZARP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 315.000

MSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99056) (20 MAR 74)

RUN NO. 24/0 RN/L = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CIN	CLIN	CYN	CYIN	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	10.490	.62950	.85970	.06040	.03320	-.00220	.46990	.02280	.34320	.00000	.44710
4.960	12.390	.79400	1.01400	.05970	.03380	.00380	.47070	.02280	.36060	.00000	.44780
4.960	16.450	1.12210	1.24240	.06310	.02980	-.00280	.47940	.02270	.38970	.00000	.45660
4.960	20.300	1.53150	1.48310	.07660	.01590	.00700	.49230	.02280	.41420	.00000	.45940
4.960	24.580	2.02190	1.67450	.08550	.02210	.00720	.51030	.02340	.43860	.00000	.46690
4.960	28.620	2.53980	1.87220	.07770	.03230	.01430	.52390	.02420	.45440	.00000	.49970
4.960	30.550	2.82600	1.98420	.07360	.02140	.01360	.53190	.02430	.46350	.00000	.50750
4.960	20.520	1.93130	1.48300	.08220	.01460	.00660	.49230	.02390	.41420	.00000	.46830
GRADIENT		.10892	.05461	.00110	-.00049	.00078	.00322	.00008	.00578	.00000	.00314

(R99059) (20 MAR 74)

MSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

REFERENCE DATA

REF A .7420 SQ. IN. XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 DREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 315.000

PARAMETRIC DATA

RUN NO. 73/ 0 RNL = 4.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CYN	CYNH	CBL	CA	CAB	XCP/L	CFB1	CPC
4.960	50.370	5.32880	2.84560	.12320	.01130	.02300	.57260	.00000	.48840	.00000	.57260
4.960	52.280	5.55990	2.94370	.15840	-.00290	.01480	.53920	.00000	.49050	.00000	.53920
4.960	56.310	6.10420	3.08010	.13470	.04240	.02580	.51820	.00000	.49480	.00000	.51820
4.960	60.330	6.59130	3.14060	.16510	-.00930	.02630	.50110	.00000	.49970	.00000	.50110
4.960	64.370	7.06370	3.21450	.18560	.00570	.02720	.45880	.00000	.50340	.00000	.45880
4.960	68.360	7.44440	3.25980	.19930	-.00370	.03800	.39740	.00000	.50640	.00000	.39740
4.960	70.270	7.59290	3.27360	.19920	-.04860	.02280	.35820	.00000	.50760	.00000	.35820
4.960	80.330	6.57870	3.15650	.14870	.02040	.02930	.50090	.00000	.49910	.00000	.50090
GRADIENT		.11551	.01931	.00359	-.00208	.00053	-.00976	.00000	.00098	.00000	-.00976

MSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99060) (20 MAR 74)

REFERENCE DATA

REF A .7420 SQ. IN. XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 DREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 315.000

PARAMETRIC DATA

RUN NO. 74/ 0 RNL = 4.92 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNH	CLMH	CYN	CYNH	CBL	CA	CAB	XCP/L	CFB1	CPC
4.960	60.330	6.12780	3.11650	.23130	-.03130	.04580	.20280	.00000	.51580	.00000	.20280
4.960	62.430	6.22110	3.02410	.22130	-.02380	.03740	.13950	.00000	.51860	.00000	.13950
4.960	66.420	6.55130	2.86550	.23760	-.10640	.03070	-.04340	.00000	.52280	.00000	-.04340
4.960	90.420	8.32990	2.63710	.29230	-.19860	.02170	-.27410	.00000	.52750	.00000	-.27410
4.960	94.430	8.41630	2.21340	.31060	-.19370	.03450	-.47690	.00000	.53680	.00000	-.47690
4.960	90.400	6.37000	1.85120	.28380	-.13900	.04140	-.63040	.00000	.54400	.00000	-.63040
4.960	100.290	6.32620	1.70110	.25920	-.13010	.04210	-.70750	.00000	.54700	.00000	-.70750
4.960	90.420	6.32880	2.58310	.30920	-.20310	.02650	-.27500	.00000	.52850	.00000	-.27500
GRADIENT		.00962	-.07316	.00401	-.00378	.00003	-.04757	.00500	.00160	.00000	-.04757

DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 583

PAGE 47

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT (899061) (20 MAR 74)

REFERENCE DATA

REF = .7420 SQ. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 319.000

RUN NO. 72/ 0 RNL = 4.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMH	CBL	CA	CAB	KCP/L	CFB1	CPC
4.960	129.630	4.53560	.04390	.09660	-.12550	.08390	-.68850	.00000	.58090	.00000	-.68850
4.960	127.720	5.28170	.09670	.07960	-.12700	.07780	-.64480	.00000	.57930	.00000	-.64480
4.960	123.690	5.82290	.23050	.08820	-.15720	.09140	-.55200	.00000	.57560	.00000	-.55200
4.960	119.670	6.35130	.39210	.08510	-.17790	.08680	-.46500	.00000	.57170	.00000	-.46500
4.960	115.630	6.82310	.56280	.08790	-.18770	.09850	-.35610	.00000	.56810	.00000	-.35610
4.960	111.630	7.24330	.76630	.06310	-.23310	.11310	-.24690	.00000	.56410	.00000	-.24690
4.960	109.730	7.41810	.87230	.06250	-.25960	.09170	-.18810	.00000	.56200	.00000	-.18810
4.960	119.670	6.35840	.34260	.09110	-.17920	.09280	-.46160	.00000	.57310	.00000	-.46160
GRADIENT		-.12224	-.04159	.00137	.00642	-.10108	-.02492	.00000	.00095	.00000	-.02492

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(899062) (20 MAR 74)

REFERENCE DATA

REF = .7420 SQ. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 319.000

RUN NO. 26/ 0 RNL = 5.09 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMH	CBL	CA	CAB	KCP/L	CFB1	CPC
4.960	149.280	2.47750	.04840	.07760	-.04520	.04920	-.99390	.00000	.57910	.00000	-.99390
4.960	147.360	2.73730	-.05060	.07620	-.04430	.04910	-.96510	.00000	.58970	.00000	-.96510
4.960	143.270	3.33520	.03590	.07240	-.04500	.05450	-.90700	.00000	.58060	.00000	-.90700
4.960	139.210	3.90630	.10060	.08020	-.04300	.04820	-.84210	.00000	.57800	.00000	-.84210
4.960	135.120	4.50370	.21340	.08250	-.05850	.06070	-.76620	.00000	.57420	.00000	-.76620
4.960	131.090	5.07510	.30440	.07890	-.05980	.06800	-.68660	.00000	.57200	.00000	-.68660
4.960	129.140	5.35910	.39280	.09420	-.05940	.06580	-.64280	.00000	.56960	.00000	-.64280
4.960	139.200	3.90630	.08710	.08040	-.04930	.03140	-.84640	.00000	.57860	.00000	-.84640
GRADIENT		-.14332	-.01930	-.00063	.00088	.00038	-.01730	.00000	.00063	.00000	-.01730

DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 583

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MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/CRT

(R99063) (20 MAR 74)

REFERENCE DATA

SREF = .7420 IN. XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 315.000

RUN NO. 25/ 0 RVL = 5.12 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYN	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	169.650	.49510	-.36320	.06680	-.01550	.02480	-1.18260	.00000	.70990	.00000	-1.18260
4.960	167.760	.59080	-.38950	.07810	-.03150	.03200	-1.16740	.00000	.69700	.00000	-1.16740
4.960	163.760	.93170	-.40950	.08680	-.00320	.02960	-1.13640	.00000	.65880	.00000	-1.13640
4.960	159.650	1.29800	-.35860	.09230	-.08760	.04240	-1.09500	.00000	.63040	.00000	-1.09500
4.960	155.600	1.77390	-.28770	.09960	-.04140	.04400	-1.05310	.00000	.60870	.00000	-1.05310
4.960	151.540	2.27720	-.20750	.10770	-.03280	.04880	-1.00980	.00000	.59830	.00000	-1.00980
4.960	149.810	2.56230	-.14350	.10590	-.03350	.04290	-1.09120	.00000	.59220	.00000	-1.09120
4.960	159.650	1.29840	-.33730	.09120	-.04350	.04440	-1.09740	.00000	.63030	.00000	-1.09740
GRADIENT		-.10354	-.01165	-.00187	.00095	-.00103	-.00968	.00000	.00598	.00000	-.00968

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/CRT

(R99064) (20 MAR 74)

REFERENCE DATA

SREF = .7420 IN. XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 315.000

RUN NO. 27/ 0 RVL = 5.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYN	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	169.610	-.42740	.38130	.04220	-.00820	-.01160	-1.22800	.00000	.73740	.00000	-1.22800
4.960	167.900	-.33050	.30390	.05250	.02060	-.01380	-1.23310	.00000	.74210	.00000	-1.23310
4.960	163.850	-.19210	.17560	.05240	-.00960	-.01110	-1.22280	.00000	.76300	.00000	-1.22280
4.960	179.820	.05430	.03120	.05150	-.00800	.00040	-1.22280	.00000	.48240	.00000	-1.22280
4.960	175.770	.20670	-.15690	.06230	-.00960	.00670	-1.21120	.00000	.71430	.00000	-1.21120
4.960	171.770	.38500	-.27210	.06770	-.03550	.00900	-1.19620	.00000	.70520	.00000	-1.19620
4.960	169.650	.50830	-.31440	.07850	-.03230	.02630	-1.18230	.00000	.68990	.00000	-1.18230
4.960	179.820	.04020	.08530	.05650	.01490	.00420	-1.22210	.00000	.21450	.00000	-1.22210
GRADIENT		-.04575	.03973	-.00145	.00191	-.00175	-.00224	.00000	.00290	.00000	-.00224



DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 583

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MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD)

(R99063) (20 MAR 74)

REFERENCE DATA

REF = .7420 IN. YMRP = 3.2530 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 141/ 0 RN/L = 6.95 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
1.953	50.710	5.91160	4.03960	.02340	.02700	-.00870	.56330	.00000	.46360	.00000	.98330
1.953	52.810	6.13800	4.07460	.01480	.01940	-.00620	.57500	.00000	.46710	.00000	.97500
1.953	56.640	6.66520	4.17660	.00220	.01720	-.00650	.56710	.00000	.47360	.00000	.96710
1.953	65.680	7.14200	4.27740	.00090	.01520	-.00230	.54940	.00000	.47840	.00000	.94940
1.953	64.690	7.61260	4.36770	.00800	.01230	-.00580	.51900	.00000	.48280	.00000	.91900
1.953	68.670	7.88190	4.23670	.01210	.02710	-.00420	.47980	.00000	.48910	.00000	.47980
1.953	70.370	8.04350	4.20490	.00180	.02260	-.00320	.46040	.00000	.49160	.00000	.46040
1.953	60.650	7.14340	4.26590	-.00390	.01730	-.00310	.55190	.00000	.47870	.00000	.55190
GRADIENT		.10875	.01037	-.00059	-.00001	.00025	-.00607	.00000	.00137	.00000	-.00607

RUN NO. 146/ 0 RN/L = 6.30 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
3.479	50.490	5.44810	3.37670	.02270	.02340	-.01390	.59330	.00000	.47480	.00000	.59330
3.479	52.380	5.68960	3.43860	.01730	.03830	-.01180	.58640	.00000	.47750	.00000	.58640
3.479	56.410	6.20780	3.53430	.01320	.01520	-.01780	.56880	.00000	.48380	.00000	.56880
3.479	60.420	6.68940	3.57070	.00960	.02360	-.01340	.54960	.00000	.48970	.00000	.54960
3.479	64.440	7.08040	3.60560	.01230	.01150	-.01650	.51770	.00000	.49000	.00000	.51770
3.479	68.430	7.42940	3.63760	.01260	.01610	-.01550	.48040	.00000	.49740	.00000	.48040
3.479	70.330	7.57030	3.62420	.01380	.01870	-.01760	.45640	.00000	.49930	.00000	.45640
3.479	60.480	6.67430	3.57800	.00940	.02080	-.01690	.55140	.00000	.48930	.00000	.55140
GRADIENT		.10764	.01213	-.00036	-.00067	-.00017	-.00674	.00000	.00124	.00000	-.00674

RUN NO. 145/ 0 RN/L = 4.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	50.340	5.37820	3.10730	.00400	.02440	-.03120	.59990	.00000	.48210	.00000	.59990
4.960	52.230	5.60920	3.18330	.00610	.04390	-.01780	.59040	.00000	.48390	.00000	.59040
4.960	56.290	6.14840	3.30860	.00970	.02450	-.04220	.56150	.00000	.48900	.00000	.56150
4.960	60.260	6.60860	3.40780	.00200	.02700	-.02890	.53090	.00000	.49290	.00000	.53090
4.960	64.280	7.03810	3.46990	-.01120	.03380	-.02640	.49800	.00000	.49680	.00000	.49800
4.960	68.260	7.40640	3.50880	.01920	.02360	-.04090	.44920	.00000	.50010	.00000	.44920
4.960	70.160	7.58950	3.53130	-.00700	.03320	-.03150	.42680	.00000	.50160	.00000	.42680
4.960	60.260	6.57960	3.37180	.00190	.02680	-.04030	.53120	.00000	.49340	.00000	.53120
GRADIENT		.11157	.02089	-.00025	-.00011	-.00033	-.00868	.00000	.00099	.00000	-.00868

MSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD)

(R99066) (20 MAR 74)

REFERENCE DATA

REF * .7420 SQ. IN XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BRP = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 142/ 0 RN/L = 6.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
1.955	80.350	8.43470	3.64060	.01900	.02150	-.00300	.34930	.00000	.50750	.00000	.34930
1.955	82.240	8.47010	3.49400	.01760	.01620	-.00640	.31190	.00000	.51080	.00000	.31190
1.955	86.220	8.62550	3.23530	.02080	.01300	-.00600	.23240	.00000	.51730	.00000	.23240
1.955	90.190	8.65560	2.89990	.00970	.00500	-.00830	.14540	.00000	.52430	.00000	.14540
1.955	94.180	8.65840	2.54450	.01030	.00070	-.00260	.05510	.00000	.53140	.00000	.05510
1.955	98.130	8.48970	2.18130	.00580	-.00270	-.00370	-.04690	.00000	.53780	.00000	-.04690
1.955	100.010	8.39980	1.99790	-.00290	-.00090	-.00420	-.09220	.00000	.54130	.00000	-.09220
1.955	90.180	8.52230	2.83990	.01170	.01970	-.00590	.14580	.00000	.52460	.00000	.14580
GRADIENT		-.00015	-.00378	-.00100	-.00119	.00007	-.02248	.00000	.00172	.00000	-.02248

RUN NO. 143/ 0 RN/L = 6.91 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
3.479	80.290	8.14690	3.34560	.01130	.02170	-.00240	.35900	.00000	.51110	.00000	.35900
3.479	82.180	8.21790	3.26820	.01170	.01240	-.00810	.31940	.00000	.51340	.00000	.31940
3.479	86.170	8.31960	3.04730	.01050	.01550	-.00430	.23900	.00000	.51880	.00000	.23900
3.479	90.170	8.34400	2.79450	.00360	.00860	-.03730	.14780	.00000	.52430	.00000	.14780
3.479	94.160	8.32490	2.50390	.00360	.00310	-.00840	.05120	.00000	.53020	.00000	.05120
3.479	98.120	8.21830	2.21260	.00600	.01630	.00090	-.04670	.00000	.53570	.00000	-.04670
3.479	100.010	8.14390	2.04590	-.00190	.00950	.00400	-.09320	.00000	.53880	.00000	-.09320
3.479	90.150	8.34350	2.78890	.00590	.00890	-.00620	.14930	.00000	.52440	.00000	.14930
GRADIENT		-.00000	-.06621	-.00057	-.00039	.00033	-.02299	.00000	.00140	.00000	-.02299

RUN NO. 144/ 0 RN/L = 5.11 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	80.240	8.03620	3.28560	.00820	.04080	-.03090	.37630	.00000	.51140	.00000	.37630
4.960	82.130	8.12060	3.24660	-.00230	.03640	-.03580	.33370	.00000	.51300	.00000	.33370
4.960	86.130	8.23180	3.06390	-.00640	.04560	-.02220	.24940	.00000	.51800	.00000	.24940
4.960	90.120	8.23370	2.81830	-.00080	.03250	-.03310	.15100	.00000	.52300	.00000	.15100
4.960	94.140	8.21730	2.57440	-.06860	-.01220	-.02580	.04800	.00000	.52800	.00000	.04800
4.960	98.110	8.10310	2.26860	-.01800	.02210	-.02100	-.06120	.00000	.53380	.00000	-.06120
4.960	100.010	8.01800	2.13330	-.02950	.02380	-.02530	-.11490	.00000	.53620	.00000	-.11490
4.960	90.120	8.23440	2.93130	-.01730	.04630	-.02620	.15070	.00000	.52270	.00000	.15070
GRADIENT		-.00129	-.03959	-.00211	-.00145	.00045	-.02462	.00000	.00127	.00000	-.02462



DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TUR 583

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MSFC 563 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99087) (20 MAR 74)

REFERENCE DATA

REF = .7420 IN. XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 111/ 0 RN/L = 7.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYH	CBL	CA	CAB	XCP/L	CPB1	CPC
1.949	106.820	7.36290	1.09090	-.08780	-.01620	-.00770	-.09980	.00000	.55650	.00000	-.09980
1.949	106.930	7.52130	1.50150	-.09060	-.01920	-.00280	-.01550	.00000	.53240	.00000	-.01350
1.949	102.870	7.95110	1.66990	-.11320	-.06560	-.01060	.13610	.00000	.54550	.00000	.13610
1.949	98.630	8.34760	2.05120	-.16060	-.18510	-.00850	.26340	.00000	.53980	.00000	.26340
1.949	94.610	8.58140	2.45780	-.17700	-.20370	-.01130	.37220	.00000	.53270	.00000	.37220
1.949	90.850	8.64700	2.79370	-.18150	-.21710	-.01290	.47460	.00000	.52630	.00000	.47460
1.949	86.970	8.64800	2.93610	-.17980	-.22230	-.01450	.51780	.00000	.52350	.00000	.51780
1.949	98.650	8.23200	2.02780	-.15720	-.18280	-.00700	.26150	.00000	.53980	.00000	.26150
GRADIENT		-.06793	-.09294	.00530	.01170	.00042	-.03073	.00000	.00164	.00000	-.03073

RUN NO. 113/ 0 RN/L = 6.46 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYH	CBL	CA	CAB	XCP/L	CPB1	CPC
3.479	109.230	7.16990	1.13320	-.07360	-.01750	.01520	-.15310	.00000	.55500	.00000	-.15310
3.479	107.320	7.32600	1.28210	-.07980	-.02010	.01750	-.08280	.00000	.55200	.00000	-.08280
3.479	103.300	7.69080	1.56900	-.09860	.01030	.01120	.05120	.00000	.54700	.00000	.05120
3.479	99.290	7.93080	1.82200	-.10680	.02680	.01120	.22740	.00000	.54250	.00000	.22740
3.479	95.270	8.06990	2.11660	-.11460	.00700	.01440	.38420	.00000	.53690	.00000	.38420
3.479	91.300	8.18590	2.43350	-.13000	-.03900	.01220	.49430	.00000	.53080	.00000	.49430
3.479	89.410	8.21800	2.58980	-.12760	-.05250	.01580	.54150	.00000	.52770	.00000	.54150
3.479	99.290	7.91040	1.76830	-.10580	.02730	.01390	.22450	.00000	.54360	.00000	.22450
GRADIENT		-.05257	-.07242	.00281	.00143	.00007	-.03598	.00000	.00133	.00000	-.03598

RUN NO. 114/ 0 RN/L = 5.05 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYH	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	109.660	7.04760	1.05220	-.09690	.01550	.07810	-.16780	.00000	.55650	.00000	-.16780
4.960	107.780	7.19510	1.14330	-.08640	.02380	.08870	-.10290	.00000	.55470	.00000	-.10290
4.960	103.750	7.47710	1.37820	-.11150	.01600	.07090	.03540	.00000	.55050	.00000	.03540
4.960	99.740	7.60010	1.62340	-.11340	.02620	.06310	.19640	.00000	.54580	.00000	.19640
4.960	95.720	7.83120	1.93260	-.12650	.03920	.02590	.37470	.00000	.53960	.00000	.37470
4.960	91.750	7.93480	2.23160	-.22830	-.06990	.04530	.49190	.00000	.53360	.00000	.49190
4.960	89.650	7.97500	2.39370	-.14390	-.02280	.06460	.54240	.00000	.53030	.00000	.54240
4.960	99.740	7.66980	1.64880	-.11320	.01340	.07580	.19590	.00000	.54520	.00000	.19590
GRADIENT		-.04724	-.06798	.00462	.00290	.00186	-.03688	.00000	.00152	.00000	-.03688

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD) W/GRIT

(R99068) (20 MAR 74)

REFERENCE DATA

REF = .7420 IN. XGRP = 3.2590 IN.
 LREF = .9720 IN. YGRP = .0000 IN.
 BREF = .9720 IN. ZGRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 90.000

RUN NO. 110/ 0 RN/L = 7.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	XCP/L	CFB1	CPC
1.950	100.820	6.41310	.99020	-.35670	-.18870	-.31250	-.05530	.00000	.56200	.00000	-.09530
1.950	106.700	6.63270	1.22190	-.35790	-.18100	-.31850	-.01160	.00000	.55790	.00000	-.01160
1.950	102.680	6.97670	1.60300	-.36240	-.21250	-.33380	.14400	.00000	.55140	.00000	.14400
1.950	98.660	9.31950	1.99640	-.35160	-.26310	-.34070	.28220	.00000	.54520	.00000	.28220
1.950	94.620	9.54970	2.41700	-.33360	-.29320	-.35090	.40130	.00000	.53850	.00000	.40130
1.950	90.680	9.59110	2.71330	-.35690	-.38820	-.34960	.50340	.00000	.53330	.00000	.50340
1.950	86.900	9.61480	2.88790	-.34560	-.38790	-.35380	.54540	.00000	.53030	.00000	.54540
1.950	98.680	9.24650	1.97570	-.34840	-.27020	-.33930	.27600	.00000	.54530	.00000	.27600
GRADIENT		-.06135	-.09528	-.00066	.01110	.00204	-.03224	.00000	.00158	.00000	-.03224

RUN NO. 116/ 0 RN/L = 6.38 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	XCP/L	CFB1	CPC
3.479	109.090	6.26830	.92750	-.35460	-.15860	-.31520	-.22680	.00000	.56300	.00000	-.22680
3.479	107.210	6.39590	1.06490	-.35030	-.15870	-.31810	-.17160	.00000	.56000	.00000	-.17160
3.479	103.170	6.71370	1.37080	-.36000	-.17300	-.32580	-.02540	.00000	.55510	.00000	-.02540
3.479	99.150	9.03310	1.63530	-.37990	-.17810	-.33690	.14930	.00000	.55100	.00000	.14930
3.479	95.130	9.19790	2.02200	-.41330	-.24130	-.34070	.31440	.00000	.54430	.00000	.31440
3.479	91.180	9.33900	2.39730	-.43130	-.29540	-.34220	.42050	.00000	.53790	.00000	.42050
3.479	89.270	9.33660	2.51290	-.45550	-.36470	-.34720	.46630	.00000	.53570	.00000	.46630
3.479	99.150	9.01690	1.64760	-.38480	-.17930	-.33670	.14450	.00000	.55070	.00000	.14450
GRADIENT		-.03636	-.08071	.00421	.00954	.00160	-.03632	.00000	.00137	.00000	-.03632

RUN NO. 115/ 0 RN/L = 5.06 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYNM	CBL	CA	CAB	XCP/L	CFB1	CPC
4.960	109.600	8.10200	1.03340	-.38140	-.09470	-.30350	-.25810	.00000	.55990	.00000	-.25810
4.960	107.750	8.28040	1.16400	-.36800	-.11310	-.30240	-.19720	.00000	.55760	.00000	-.19720
4.960	103.690	8.61510	1.42900	-.39610	-.11370	-.31500	-.05680	.00000	.55360	.00000	-.05680
4.960	99.680	8.99620	1.69310	-.40970	-.11260	-.32200	.09830	.00000	.54940	.00000	.09830
4.960	95.640	9.12560	2.05430	-.43890	-.17020	-.32700	.27300	.00000	.54330	.00000	.27300
4.960	91.680	9.23730	2.35140	-.45600	-.22460	-.33230	.41060	.00000	.53820	.00000	.41060
4.960	89.780	9.27270	2.46300	-.48570	-.27340	-.32860	.47380	.00000	.53630	.00000	.47380
4.960	99.680	8.86860	1.70860	-.40880	-.14440	-.31930	.09520	.00000	.54900	.00000	.09520
GRADIENT		-.05943	-.07234	.00489	.00809	.00147	-.03766	.00000	.00121	.00000	-.03766

DATE 03 AUG 74

TABULATED SOURCE DATA, NSFC TWT 583

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NSFC 583 (TAIF) 324 IN. DIA. ET(418 MOD) W/GRIT

(1190069) (20 MAR 74)

REFERENCE DATA

SREF = .7420 94. IN 198P = 3.2590 IN.
 LREF = .9720 IN. 198P = .0000 IN.
 BREF = .9720 IN. 298P = .0000 IN.
 SCALE = .0030

BETA = .000 PHI = 180.000

PARAMETRIC DATA

RUN NO. 107/ 0 RN/L = 7.01 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
1.947	109.840	7.20070	1.04810	.04490	.05980	.04410	-.09130	.00000	.55720	.00000	-.09130
1.947	106.930	7.36830	1.26240	.04880	.04690	.04970	-.00270	.00000	.55270	.00000	-.00270
1.947	102.890	7.6...90	1.64310	.04760	.02190	.04530	.16710	.00000	.54590	.00000	.16710
1.947	98.880	8.08980	2.10020	.04060	-.01050	.05020	.30490	.00000	.53740	.00000	.30490
1.947	94.860	8.30160	2.46250	-.04440	-.24160	.09120	.43150	.00000	.53090	.00000	.43150
1.947	90.910	8.37190	2.84000	-.01180	-.14860	.04760	.54340	.00000	.52350	.00000	.54340
1.947	89.020	8.38340	2.90860	-.01700	-.15940	.04980	.59510	.00000	.52050	.00000	.59510
1.947	98.900	8.01250	2.07910	.03620	-.00090	.04790	.30480	.00000	.53740	.00000	.30480
GRADIENT		-.06099	-.09849	.05411	.01344	-.00018	-.03429	.00000	.00184	.00000	-.03429

RUN NO. 117/ 0 RN/L = 6.40 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
3.479	109.280	6.89420	1.00640	-.12000	.05840	.07900	-.21210	.00000	.55710	.00000	-.21210
3.479	107.370	7.02620	1.15830	-.11830	.05060	.08690	-.14150	.00000	.55380	.00000	-.14150
3.479	103.340	7.30140	1.49870	-.12530	.03790	.07910	.01020	.00000	.54690	.00000	.01020
3.479	99.310	7.59280	1.78290	-.13010	.03620	.07550	.19870	.00000	.54170	.00000	.19870
3.479	95.310	7.78070	2.12920	-.10020	.11050	.08110	.37810	.00000	.53490	.00000	.37810
3.479	91.340	7.88030	2.46160	-.08430	.15280	.07400	.49650	.00000	.52820	.00000	.49650
3.479	89.440	7.95420	2.65050	-.08470	.13420	.07520	.54790	.00000	.52480	.00000	.54790
3.479	99.330	7.59260	1.78270	-.13770	.03020	.07860	.19450	.00000	.54170	.00000	.19450
GRADIENT		-.05399	-.08199	-.00202	-.00520	.00037	-.03954	.00000	.00161	.00000	-.03954

RUN NO. 118/ 0 RN/L = 5.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYM	CYMM	CBL	CA	CAB	KCP/L	CPB1	CPC
4.960	109.870	6.77010	1.11500	-.17660	.05960	.10290	-.24020	.00000	.55380	.00000	-.24020
4.960	107.770	6.86320	1.22140	-.18920	.07490	.10690	-.17830	.00000	.55150	.00000	-.17830
4.960	103.750	7.17210	1.53880	-.20280	.06260	.10100	-.02240	.00000	.54470	.00000	-.02240
4.960	99.740	7.41130	1.84140	-.20980	.03630	.09630	.15400	.00000	.53930	.00000	.15400
4.960	95.720	7.59670	2.12090	-.20560	.06180	.12200	.34340	.00000	.53400	.00000	.34340
4.960	91.760	7.76680	2.46180	-.22320	-.01650	.11590	.49210	.00000	.52740	.00000	.49210
4.960	89.860	7.77750	2.57670	-.24920	-.06740	.10230	.54090	.00000	.52490	.00000	.54090
4.960	99.760	7.39810	1.83020	-.20400	.03470	.11390	.14950	.00000	.53950	.00000	.14950
GRADIENT		-.05305	-.07477	.00264	.00558	-.00042	-.04035	.00000	.00146	.00000	-.04035

NSFC 583 (TAIF) 324 IN. DIA. ET(418 MOD) W/CRT1

(R99070) (20 MAR 74)

REFERENCE DATA

SACF = .7420 94. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 BREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = 270.000

RUN NO. 106/ 0 RN/L = 7.02 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
1.942	106.710	7.75600	.78200	-.19330	.01550	.23410	-.13100	.00000	.56490	.00000	-.13100
1.942	106.820	7.94760	.97290	-.19180	.03180	.23560	-.04520	.00000	.56120	.00000	-.04520
1.942	102.760	6.37230	1.39770	-.19300	.03140	.24390	.12350	.00000	.53350	.00000	.12350
1.942	96.740	6.70330	1.80030	-.23160	-.09090	.24900	.26060	.00000	.54650	.00000	.26060
1.942	94.730	6.90110	2.23600	-.22660	-.08690	.25240	.38470	.00000	.53880	.00000	.38470
1.942	90.760	9.04530	2.64890	-.22110	-.10150	.25800	.49270	.00000	.53160	.00000	.49270
1.942	86.690	8.98370	2.77550	-.21420	-.10650	.25160	.53790	.00000	.52880	.00000	.53790
1.942	84.760	8.62380	1.77260	-.22690	-.09630	.25110	.25990	.00000	.54670	.00000	.25990
GRADIENT		-.06472	-.10229	.00162	.00771	-.00108	-.03351	.00000	.00183	.00000	-.03351

RUN NO. 120/ 0 RN/L = 6.44 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
3.479	109.150	7.75060	.87200	-.09030	-.02170	.22940	-.24470	.00000	.56290	.00000	-.24470
3.479	107.240	7.87200	1.00030	-.09890	-.03730	.23550	-.18130	.00000	.56040	.00000	-.18130
3.479	103.230	6.18210	1.31770	-.10450	-.01380	.23770	-.04560	.00000	.55450	.00000	-.04560
3.479	99.210	6.49760	1.62070	-.10100	-.04920	.24220	.12880	.00000	.54930	.00000	.12880
3.479	95.190	6.64200	1.93730	-.14210	-.11240	.24890	.29450	.00000	.54330	.00000	.29450
3.479	91.220	6.80990	2.36650	-.13870	-.11200	.25300	.39610	.00000	.53580	.00000	.39610
3.479	89.330	6.83580	2.53350	-.13650	-.11430	.25030	.44710	.00000	.53260	.00000	.44710
3.479	99.210	6.49130	1.63350	-.10890	-.04400	.24950	.13030	.00000	.54900	.00000	.13030
GRADIENT		-.03691	-.08373	.00259	.00535	-.00110	-.03593	.00000	.00132	.00000	-.03593

RUN NO. 119/ 0 RN/L = 5.07 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLMM	CYM	CYMM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	109.620	7.96490	.98890	-.02070	.02970	.22900	-.26710	.00000	.56000	.00000	-.26710
4.960	107.720	7.77130	1.13150	-.03310	.03200	.23410	-.20800	.00000	.55720	.00000	-.20800
4.960	103.720	6.07800	1.48090	-.06950	.00790	.23480	-.07280	.00000	.55060	.00000	-.07280
4.960	99.710	6.40040	1.70010	-.07130	-.01320	.22980	.08420	.00000	.54730	.00000	.08420
4.960	95.680	6.61150	2.01280	-.10650	-.05590	.23210	.26430	.00000	.54180	.00000	.26430
4.960	91.710	6.74150	2.31990	-.12880	-.14020	.23620	.39290	.00000	.53640	.00000	.39290
4.960	89.810	6.79320	2.46810	-.13400	-.16410	.24150	.44410	.00000	.53370	.00000	.44410
4.960	99.710	6.34630	1.66340	-.07110	-.06650	.24090	.08400	.00000	.54770	.00000	.08400
GRADIENT		-.05912	-.07374	.00371	.01032	-.00041	-.03703	.00000	.00130	.00000	-.03703

DATE 03 AUG 74

TABULATED SOURCE DATA, MSFC TWT 583

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MSFC 503 (TAIF) 324 IN. DIA. ET (418 MOD)

(R99071) (20 MAR 74)

REFERENCE DATA

SREF = .7420 SQ. IN. WARP = 3.2590 IN.
 LREF = .9720 IN. WARP = .0000 IN.
 SREF = .9720 IN. WARP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 153/ 0 RNL = 6.67 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CYM	CYVM	CBL	CA	CAB	XCP/L	CPB1	CPC
1.953	51.190	5.85730	3.90740	.09380	.07780	.00780	.46680	.00000	.46680	.00000	.46680
1.953	53.130	6.08570	3.95680	.08340	.07730	.00620	.43720	.00000	.46950	.00000	.43720
1.953	57.190	6.35960	4.04630	.08970	.06980	.01090	.42870	.00000	.47350	.00000	.42870
1.953	61.290	7.01510	4.17390	.07300	.04260	.01100	.41610	.00000	.47910	.00000	.41610
1.953	65.300	7.20100	3.90680	.07650	.02860	.01030	.42850	.00000	.48820	.00000	.42850
1.953	69.290	7.53840	3.82770	.08670	.00420	.01200	.35900	.00000	.49430	.00000	.35900
1.953	71.230	7.78310	3.81520	.10540	-.05200	.01030	.25600	.00000	.49730	.00000	.25600
1.953	81.200	6.75740	4.00550	.07020	.03190	.01050	.42510	.00000	.47950	.00000	.42510
GRADIENT		.09238	-.00690	.00052	-.00564	.00019	-.00841	.00000	.00154	.00000	-.00841

RUN NO. 155/ 0 RNL = 8.32 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CYM	CYVM	CBL	CA	CAB	XCP/L	CPB1	CPC
3.479	50.740	5.24380	3.34620	.08220	.02560	.00420	.52460	.00000	.47160	.00000	.52460
3.479	52.640	5.46350	3.41450	.07600	.02170	.00410	.53440	.00000	.47390	.00000	.53440
3.479	56.710	5.94930	3.51910	.08450	.03160	.01020	.52390	.00000	.47970	.00000	.52390
3.479	60.760	6.48350	3.59940	.07290	.03170	.01370	.48930	.00000	.48600	.00000	.48930
3.479	64.620	6.95030	3.64920	.06280	.01370	.03552	.43530	.00000	.49120	.00000	.43530
3.479	68.630	7.32560	3.64400	.06790	.00400	.00750	.35920	.00000	.49600	.00000	.35920
3.479	70.740	7.48210	3.57990	.06620	-.01040	.00410	.52170	.00000	.49930	.00000	.52170
3.479	80.760	6.54010	3.47410	.06010	-.00070	.00380	.49130	.00000	.49020	.00000	.49130
GRADIENT		.11409	.01299	-.00086	-.00158	.00037	-.01045	.00000	.00158	.00000	-.01045

RUN NO. 154/ 0 RNL = 4.93 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CYM	CYVM	CBL	CA	CAB	XCP/L	CPB1	CPC
4.960	50.370	5.24810	2.95640	.03820	.03890	-.02930	.57050	.00000	.48480	.00000	.57050
4.960	52.260	5.49700	3.02660	.04050	.06470	-.02130	.55560	.00000	.48680	.00000	.55560
4.960	56.310	6.04000	3.14910	.04410	.06500	-.03290	.51180	.00000	.49190	.00000	.51180
4.960	60.330	6.51320	3.23740	.04710	.05850	-.02700	.49410	.00000	.49610	.00000	.49410
4.960	64.370	7.00130	3.34740	.06730	.06110	-.02720	.45760	.00000	.49940	.00000	.45760
4.960	68.360	7.38090	3.37990	.04710	.05350	-.06720	.39620	.00000	.50290	.00000	.39620
4.960	70.270	7.52890	3.38030	.05360	.04520	-.02140	.36020	.00000	.50450	.00000	.36020
4.960	80.320	6.29630	3.29080	.06790	.04760	-.03490	.49330	.00000	.49170	.00000	.49330
GRADIENT		.11591	.02104	.00083	-.00012	-.00075	-.00998	.00000	.00099	.00000	-.00998

NSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD)

(R99072) (20 MAR 74)

REFERENCE DATA

REF = .7420 38. IN 100P = 3.2590 IN.
 ' .9720 IN. 100P = .0000 IN.
 REF = .9720 IN. 200P = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 156/ 0 RM/L = 6.62 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYN	CYM	CBL	CA	CAB	MCP/L	CFB1	CPC
1.955	81.350	8.25190	3.03240	.13400	-.09550	.01220	-.17540	.00000	.51860	.00000	-.17540
1.955	83.240	8.38210	2.94990	.13500	-.04650	.01510	-.24650	.00000	.52130	.00000	-.24650
1.955	87.260	8.59770	2.69610	.13000	-.04480	.01120	-.37500	.00000	.52800	.00000	-.37500
1.955	91.240	8.60220	2.33190	.11790	-.02100	.01130	-.49030	.00000	.53540	.00000	-.49030
1.955	95.220	8.55660	2.00210	.09980	-.00350	.02310	-.57730	.00000	.54180	.00000	-.57730
1.955	99.150	8.50560	1.71300	.08640	-.00440	.01660	-.68080	.00000	.54750	.00000	-.68080
1.955	101.030	8.42610	1.57270	.08930	-.00940	.01710	-.72780	.00000	.55000	.00000	-.72780
1.955	91.200	8.52270	2.31660	.09300	.01560	.02080	-.47500	.00000	.55520	.00000	-.47500
GRADIENT		.00724	-.07662	-.00246	.00271	.00035	-.02756	.00000	.00163	.00000	-.02756

RUN NO. 156/ 0 RM/L = 6.31 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYN	CYM	CBL	CA	CAB	MCP/L	CFB1	CPC
3.479	80.950	7.97170	3.23790	.12240	-.04650	.01370	.05010	.00000	.51190	.00000	.05010
3.479	82.840	8.02630	3.23130	.11330	-.02110	.01140	-.01940	.00000	.51250	.00000	-.01940
3.479	86.650	8.07090	3.02800	.11660	-.03790	.00570	-.22870	.00000	.51730	.00000	-.22870
3.479	90.650	8.16900	2.69770	.11710	-.03990	.01450	-.39310	.00000	.52510	.00000	-.39310
3.479	94.630	8.08570	2.39210	.11980	-.02830	.01620	-.50500	.00000	.53110	.00000	-.50500
3.479	98.780	8.01130	2.05270	.10280	-.00070	.01240	-.62800	.00000	.53790	.00000	-.62800
3.479	100.660	7.94580	1.90440	.09530	.01430	.01960	-.68480	.00000	.54080	.00000	-.68480
3.479	90.630	8.13330	2.73550	.11480	-.01680	.01120	-.38680	.00000	.52400	.00000	-.38680
GRADIENT		-.00087	-.07098	-.00098	.00226	.00031	-.03738	.00000	.00194	.00000	-.03738

RUN NO. 157/ 0 RM/L = 4.97 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYN	CYM	CBL	CA	CAB	MCP/L	CFB1	CPC
4.960	80.520	7.76520	3.25170	.13470	.05030	.01770	.09620	.00000	.50970	.00000	.09620
4.960	82.420	7.83750	3.13410	.12930	.02490	.01050	.02210	.00000	.51320	.00000	.02210
4.960	86.410	7.89430	2.96410	.10170	.03650	.01950	-.16480	.00000	.51680	.00000	-.16480
4.960	90.410	7.92760	2.71710	.13080	.04630	.01660	-.35490	.00000	.52290	.00000	-.35490
4.960	94.420	7.95070	2.44160	.12610	.05260	.00590	-.49690	.00000	.52910	.00000	-.49690
4.960	98.390	7.87730	2.19280	.12580	.04970	.02260	-.62560	.00000	.53410	.00000	-.62560
4.960	100.280	7.82040	2.04700	.11410	.03840	.01680	-.70050	.00000	.53700	.00000	-.70050
4.960	90.410	7.94200	2.73190	.14210	.03790	.01910	-.35430	.00000	.52230	.00000	-.35430
GRADIENT		.00263	-.06085	-.00036	.00041	-.00064	-.04051	.00000	.00137	.00000	-.04051

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TABULATED SOURCE DATA, MSFC TW 583

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MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD)

(899073) (20 MAR 74)

REFERENCE DATA

BREF = .7420 84. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 GREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 147/ 0 RML = 4.95 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	CMH	CLMH	CYM	CYMH	CBL	CA	CAB	MCP/L	CPH1	CPC
4.960	-9.760	-73900	-00290	-00530	-02490	.44660	-.27700	.36190	.00000	.72360
4.960	-7.960	-59150	-00170	.01490	.00000	.44120	-.27660	.35150	.00000	.71310
4.960	-3.850	-21120	-00030	.02360	.00620	.42460	-.27730	.33640	.00000	.70190
4.960	.220	.03660	.04180	.02670	.00040	.41560	-.27740	.30430	.00000	.69310
4.960	4.230	.24370	.35550	.00360	-00170	.41830	-.27710	.32910	.00000	.69540
4.960	6.270	.49220	.69760	.00250	-01320	.43170	-.27670	.33630	.00000	.70640
4.960	10.190	.82910	.82000	.01410	-00130	.43340	-.27680	.35610	.00000	.71030
4.960	.200	.02310	.05600	.03320	.01840	.41310	-.27700	.14770	.00000	.69010
GRADIENT		.05630	.00019	-.00247	-.00098	-.00078	.00002	-.00089	.00000	-.00081

REFERENCE DATA

BREF = .7420 84. IN XREF = 3.2590 IN.
 LREF = .9720 IN. YREF = .0000 IN.
 GREF = .9720 IN. ZREF = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD)

(899074) (20 MAR 74)

RUN NO. 148/ 0 RML = 4.96 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	CMH	CLMH	CYM	CYMH	CBL	CA	CAB	MCP/L	CPH1	CPC
4.960	10.400	.82960	.00890	.01300	-.01920	.45000	-.27720	.35250	.00000	.72720
4.960	12.410	.78040	.00400	.00890	-.02000	.45350	-.27660	.36740	.00000	.73040
4.960	16.450	1.09560	.00610	.02380	-.02990	.46640	-.27680	.39010	.00000	.74330
4.960	20.520	1.47630	.00810	.01260	-.02520	.48110	-.27700	.40960	.00000	.75610
4.960	24.570	1.96860	.01130	.01360	-.02000	.49710	-.27560	.43560	.00000	.77660
4.960	28.610	2.46660	.01510	.04100	-.02300	.50770	-.27730	.45060	.00000	.78450
4.960	30.340	2.75870	.01670	.03500	-.03510	.51190	-.27730	.45900	.00000	.78920
4.960	20.500	1.47610	.00860	.03160	-.00530	.46400	-.27710	.41110	.00000	.76120
GRADIENT		.10399	.00052	.00120	-.00039	.00324	.00001	.00326	.00000	.00323

MSFC 563 (TAIF) 324 IN. DIA. ET (418 MOD)

(R99075) (20 MAR 74)

REFERENCE DATA

SREF = .7420 54. IN XGRP = 3.2590 IN.
 LREF = .9720 IN. YGRP = .0000 IN.
 BREF = .9720 IN. ZGRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 152/ 0 RNVL = 4.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLNN	CYN	CYNH	CBL	CA	CAB	XCP/L	CFB1	CPC
4.960	109.660	7.13860	1.31740	-.05220	.02940	-.02160	-.21690	.00000	.55040	.00000	-.21690
4.960	107.760	7.26570	1.51780	-.05330	.02120	-.00970	-.16540	.00000	.54630	.00000	-.16540
4.960	103.750	7.56810	1.87740	-.05480	.00060	-.00880	-.02800	.00000	.54400	.00000	-.02800
4.960	99.720	7.82120	1.95800	-.06200	-.01930	-.01400	.13970	.00000	.53900	.00000	.13970
4.960	95.720	7.95200	2.19220	-.06300	-.02800	-.02020	.32230	.00000	.53460	.00000	.32230
4.960	91.750	8.04240	2.45270	-.06270	-.08120	-.02230	.42850	.00000	.52950	.00000	.42850
4.960	89.850	8.66740	2.59240	-.05710	-.09070	-.01020	.47260	.00000	.52660	.00000	.47260
4.960	99.750	7.79390	1.96160	-.06200	-.01300	-.02040	.13440	.00000	.53870	.00000	.13440
GRADIENT		-.04712	-.06219	.00044	.00595	.00009	-.03643	.00000	.00114	.00000	-.03643

MSFC 563 (TAIF) 324 IN. DIA. ET (418 MOD)

(R99076) (20 MAR 74)

REFERENCE DATA

SREF = .7420 54. IN XGRP = 3.2590 IN.
 LREF = .9720 IN. YGRP = .0000 IN.
 BREF = .9720 IN. ZGRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 153/ 0 RNVL = 5.00 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLNN	CYN	CYNH	CBL	CA	CAB	XCP/L	CFB1	CPC
4.960	129.650	4.83400	.27970	-.03100	.03790	-.00150	-.69780	.00000	.57240	.00000	-.69780
4.960	127.740	5.08210	.32660	-.03300	.05640	-.00910	-.57580	.00000	.57130	.00000	-.57580
4.960	123.710	5.61380	.45130	-.03650	.06150	-.01020	-.47020	.00000	.56850	.00000	-.47020
4.960	119.670	6.11540	.61660	-.03970	.05350	-.01010	-.39490	.00000	.56490	.00000	-.39490
4.960	115.630	6.61600	.85970	-.04290	.04480	-.00430	-.30800	.00000	.55990	.00000	-.30800
4.960	111.660	7.03410	1.12710	-.04340	.02320	-.00330	-.21210	.00000	.55460	.00000	-.21210
4.960	109.750	7.22340	1.22020	-.04710	.04140	-.01210	-.19250	.00000	.55310	.00000	-.19250
4.960	119.690	6.08700	.62170	-.04070	.10430	.01450	-.40230	.00000	.56470	.00000	-.40230
GRADIENT		-.12036	-.04845	.00079	.00085	-.00037	-.02255	.00000	.00100	.00000	-.02255



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TABULATED SOURCE DATA, MSFC TWT 593

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MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD)

(R99077) (20 MAR 74)

REFERENCE DATA

BREF = .7420 SA. IN XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000
 BETA = .000 PHI = .000

RUN NO. 151/ 8 RVL = 4.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYN	CYM	CBL	CA	CAB	XCP/L	CFB1	CPC
4.960	149.280	2.43410	-.03960	-.01560	.03480	.02360	-.89370	.00000	.58330	.00000	-.89370
4.960	147.330	2.66530	-.01990	-.01680	.02200	.02480	-.87490	.00000	.58380	.00000	-.87490
4.960	143.290	3.12820	-.04540	-.01820	-.03450	.03280	-.82980	.00000	.58500	.00000	-.82980
4.960	139.200	3.79370	.12360	-.02420	.03330	.01720	-.77270	.00000	.57680	.00000	-.77270
4.960	135.130	4.37830	.22640	-.01150	.06490	.03160	-.70130	.00000	.57330	.00000	-.70130
4.960	131.090	4.92100	.32150	-.03170	.04410	.03850	-.62630	.00000	.57110	.00000	-.62630
4.960	129.160	5.17810	.41520	-.03260	.01130	.03520	-.58370	.00000	.56850	.00000	-.58370
4.960	139.220	3.76000	.12570	-.02410	.03330	.02880	-.77080	.00000	.57670	.00000	-.77080
GRADIENT		-.13874	-.02299	.00072	-.00095	-.00057	-.01539	.00000	.00087	.00000	-.01539

REFERENCE DATA

BREF = .7420 SA. IN XMRP = 3.2590 IN.
 LREF = .9720 IN. YMRP = .0000 IN.
 BREF = .9720 IN. ZMRP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000
 BETA = .000 PHI = .000

RUN NO. 150/ 8 RVL = 4.96 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNN	CLMM	CYN	CYM	CBL	CA	CAB	XCP/L	CFB1	CPC
4.960	169.630	.47720	-.40420	-.00168	-.02538	.03020	-1.02640	.00888	.72968	.80000	-1.02648
4.960	167.740	.59980	-.36220	-.00270	-.01288	.02910	-1.02130	.90000	.69320	.00000	-1.02136
4.960	163.700	.88580	-.39480	-.00540	.02318	.02250	-1.00270	.00000	.63980	.00000	-1.00270
4.960	159.660	1.25280	-.35430	-.00770	.02488	.00230	-.96810	.00800	.63160	.00000	-.96810
4.960	155.580	1.79340	-.17230	-.01100	.01050	.00310	-.94040	.00800	.59910	.00000	-.94040
4.960	151.550	2.21760	-.16440	-.01430	.04210	.00020	-.90630	.00000	.59330	.00000	-.90630
4.960	149.630	2.42180	-.16630	-.01499	.01718	.03130	-.88510	.00000	.59440	.00000	-.88510
4.960	159.660	1.23980	-.36530	-.00760	.02500	.01970	-.96820	.00000	.63360	.00000	-.96820
GRADIENT		-.09949	-.01385	.00069	-.00222	.00060	-.00713	.00000	.00656	.00000	-.00713

MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD)

(R99078) (20 MAR 74)

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TABULATED SOURCE DATA, MSFC TWT 583

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MSFC 583 (TAIF) 324 IN. DIA. ET (418 MOD)

(R99079) (20 MAR 74)

REFERENCE DATA

BREF = .7420 IN. THRP = 3.2590 IN.
 LREF = .9720 IN. YHWP = .0000 IN.
 BREF = .9720 IN. ZHWP = .0000 IN.
 SCALE = .0030

PARAMETRIC DATA

BETA = .000 PHI = .000

RUN NO. 149/0 RVL = 4.50 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	CNM	CLNM	CYM	CYM	CBL	CA	CAB	XCPL	CP81	CPC
4.960	169.780	-3.7880	.24110	.00250	-.03260	-.02790	-1.02240	.00000	.59360	.00000	-1.02240
4.960	167.870	-.28090	.20180	-.00360	-.03660	-.02170	-1.02970	.00000	.70730	.00000	-1.02970
4.960	163.840	-.10200	.08680	.00080	-.02460	-.03420	-1.03100	.00000	.73040	.00000	-1.03100
4.960	179.600	.06340	-.05130	-.00610	-.00230	-.03600	-1.03600	.00000	.72300	.00000	-1.03600
4.960	175.790	.18840	-.22380	-.00040	-.02130	-.03400	-1.03860	.00000	.78880	.00000	-1.03860
4.960	171.760	.39490	-.35430	-.00240	.01790	-.03730	-1.03730	.00000	.73830	.00000	-1.03730
4.960	169.850	.49000	-.39440	-.00840	.00720	-.02480	-1.03130	.00000	.70810	.00000	-1.03130
4.960	179.820	.05020	-.06210	-.00040	.00230	-.02470	-1.03800	.00000	.79760	.00000	-1.03800
GRADIENT		-.04225	.03252	.00029	-.00235	.00026	.00050	.00000	-.00175	.00000	.00050